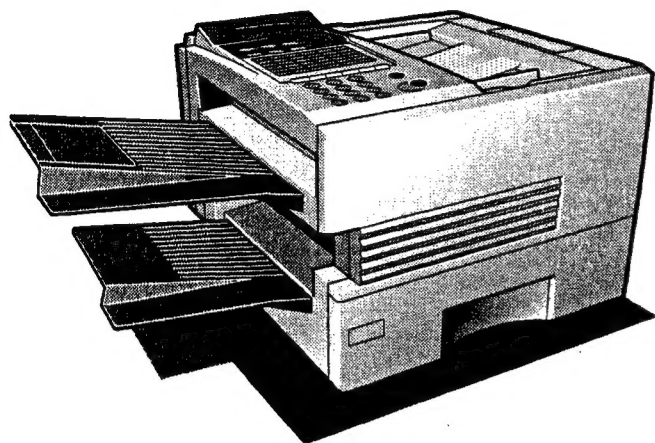


# Service Manual

Facsimile

UF-885 / 895



**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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# Table of Contents

<b>General Description .....</b>	<b>5</b>	2.11 Fan Duct (520), Printer Motor (650), Motor Bracket (641) .....	39
1.1 Overview .....	5	2.12 Laser Unit (429), Feed Roller (618), Paper Feed Roller (746), Clutch Gear Assembly (660), Paper Feed Solenoid (744), Fan Unit (622) .....	41
1.2 General Features and Functions .....	5	2.13 ILS PC Board (621), No Paper Actuator (609), Catch Magnet (730) .....	43
1.3 General Specifications .....	7	2.14 High Voltage Power Supply (HVPS) (506) .....	44
1.4 Scanner Specifications .....	9	2.15 Screw Identification Template .....	45
1.5 Printer Specifications .....	10		
1.6 Power .....	11	<b>Maintenance, Adjustments and Check Points .....</b>	<b>46</b>
1.7 Environment .....	11	3.1 Required Tools .....	46
1.8 Construction .....	11	3.2 Periodic Maintenance Points .....	46
1.9 Function Table .....	15	3.3 Periodic Maintenance Check List .....	47
<b>Disassembly Instruction .....</b>	<b>18</b>	3.4 Updating the Firmware .....	48
2.1 General Disassembly Flowchart .....	18	3.5 ADF Pressure .....	49
2.2 Power Cord (1108), Telephone Line Cable (1107), Document Return Tray (138 and 139), Recording Paper Tray (1106), Paper Cassette (1018) .....	19	3.6 Printer Unit Test .....	50
2.3 Sub Rear Cover (114), Rear Cover (108), Left Side Cover (107), Front Cover (105), Speaker (133) .....	20	3.7 General Circuit Diagram .....	51
2.4 Paper Guide Cover (110), Transmit Guide (117), SNS Assembly (121) .....	22	3.8 FCB PCB .....	54
2.5 Low Voltage Power Supply Unit (502), FCB PC Board (522), LCU PC Board (519), LPC PC Board (555), Control Panel Unit, PNL PC Board (214) .....	24	3.9 LPC PCB .....	76
2.6 Transmitter Chassis (301), Scanner Assembly (340), LED Array Assembly (333), Verification Stamp Assembly .....	28	3.10 LCU/LCE PCB .....	85
2.7 ADF Roller (323), Pre-Feed Roller (325), Eject Roller (330), Feed Roller (328), Transmission Gear Assembly, Transmit Motor (346) .....	30	3.11 SRU PCB (Optional) .....	88
2.8 Toner Sensor (639), Timing Sensor (610), Bias Transfer Roller (630) .....	33	3.12 Low Voltage Power Supply PCB (POW) .....	90
2.9 Fuser Unit (431), Fuser Lamp (408), Thermistor Assembly (405), Paper Exit Sensor (610) .....	35	3.13 High Voltage Power Supply PCB (HVPS) .....	92
2.10 Fuser Roller (414), Pressure Roller (409), Eject Roller (422) .....	37	3.14 CST2 PCB (Option) .....	94
		3.15 CST3 PCB (Option) .....	98
		<b>Troubleshooting .....</b>	<b>102</b>
		4.1 Initial Troubleshooting Flowchart .....	102
		4.2 Improper LCD Display .....	103
		4.3 Information Codes (INFO. CODES) ....	104
		4.4 Printed Copy Quality Problems .....	117
		4.5 Document Feeder (ADF) .....	133
		4.6 Communications .....	136
		4.7 Information Code Table .....	142
		4.8 Diagnostic Codes .....	146

# Table of Contents

<b>Service Modes .....</b>	<b>152</b>	<b>Options and Supplies .....</b>	<b>267</b>
5.1 Service Mode Table .....	152	9.1 Options and Supplies .....	267
5.2 Service Mode 1 (Function Parameter Setting).....	153	9.2 Installing Optional Feeder Unit (UE-409057) .....	269
5.3 Service Mode 3 (Printout of Lists, Reports and Test Results) .....	158	9.3 Installing Optional Feeder Unit (UE-409056) .....	271
5.4 Service Mode 4 (Modem Test) .....	172	9.4 Installing Handset Kit (UE-403160).....	273
5.5 Service Mode 5 (Diagnostic).....	177	9.5 Installing Parallel Port Interface Kit (UE-403159) .....	274
5.6 Service Mode 6 (RAM Initialization).....	179	9.6 Installing Page Description Language Printer Interface Kit (UE-403162) .....	276
5.7 Service Mode 7 (LBP Service Mode).....	180	9.7 Installing G3 Communication Port Kit (UE-407019) .....	278
5.8 Service Mode 8 (Check & Call).....	181	<b>Schematic Diagram .....</b>	<b>280</b>
5.9 Service Mode 9 (System Maintenance) .....	186	10.1 FCB PC Board (UF-885) .....	280
<b>System Description .....</b>	<b>191</b>	10.2 FCB PC Board (UF-895) .....	304
6.1 Mechanical Operation.....	191	10.3 LCU PC Board .....	328
6.2 Electrical Circuit Explanation .....	200	10.4 LCE PC Board.....	329
<b>Exploded View &amp; Parts List.....</b>	<b>225</b>	10.5 SRU PC Board .....	331
7.1 Country Codes.....	225	10.6 PNL PC Board.....	332
7.2 Cover Assembly.....	226	10.7 CCD PC Board.....	336
7.3 Control Panel Unit.....	229	10.8 LPC PC Board.....	338
7.4 Transmitter Assembly .....	232	10.9 SNS PC Board .....	342
7.5 Fuser Unit .....	234	10.10 ACI PC Board.....	343
7.6 Electrical Parts.....	236	10.11 ILS PC Board .....	344
7.7 Paper Transportation .....	239	10.12 SSN PC Board .....	345
7.8 250 Feeder Unit.....	242	10.13 CST2 PC Board .....	346
7.9 250 Paper Cassette .....	244	10.14 CST3 PC Board .....	347
7.10 500 Feeder Unit.....	246		
7.11 500 Paper Cassette .....	249		
7.12 Packing .....	251		
<b>Installation.....</b>	<b>254</b>		
8.1 Function Key .....	254		
8.2 Main Unit and Accessories .....	255		
8.3 Installing the Accessories .....	256		
8.4 Installing the Toner Cartridge .....	257		
8.5 Loading the Recording Paper .....	259		
8.6 Connecting the Telephone Line Cable and Power Cord.....	261		
8.7 Customizing Your Machine .....	262		

# 1 General Description

## 1.1 Overview

This section covers the features and specifications of the plain paper facsimile transceiver "Panasonic UF-885/895". This fax machine can transmit and receive on the Public Switched Telephone Network (PSTN) in modes conforming to ITU-T / CCITT Group 3 recommendations.

## 1.2 General Features and Functions

### 1. Laser Printing

Clear picture quality is obtained by employing a Laser printing method on plain paper. The machine can print onto A4, Letter or Legal size paper.

### 2. Quick Scan

Quick Scan speeds the fax process by scanning and storing documents into memory at a rate of approximately 1 second\* per page. This means that you no longer have to wait around until a transmission is completed before retrieving your originals.

(\* UF-885 : 2.8 seconds, based on ITU-T Image No.1 Test Chart at Standard Resolution. The Scanning speed applies only to the feeding process from the leading to the lagging edge of a single page test chart. The time it takes to store the document into memory is not applied for this definition)

### 3. Easy Maintenance

This laser printing mechanism only requires changing the toner cartridge, housing the drum, developer and toner.

Unlike other machines with removable EPROM (Erasable Programmable ROM), this machine is equipped with an F-ROM (Flash ROM). F-ROM offers the flexibility of quick and easy firmware updates, creation of a master firmware card, backup and restore of firmware and machine parameters.

### 4. Batch Transmission

The UF-885/895 permits accumulation of different documents for the same destination(s) to be transmitted in a single phone call.

### 5. Panasonic Super Smoothing

The machine incorporates a new sophisticated image processing technology to enhance print quality of ordinary received fax images by smoothing the curved edges of the character.

### 6. B4 size Scanning

B4 size is the maximum document width that can be scanned and transmitted.

### 7. Automatic Document Feeder

An Automatic Document Feeder feeds originals from the document tray automatically, starting with the bottom page.

Capacity: 50 documents of average thickness and of the same size.

### 8. Speedy Transmission

The use of JBIG Coding with ECM achieves faster transmissions. Short Protocol reduces hand-shake time by shortening Phase B and D.

### 9. Error Correction Mode (ECM)

An Error Correction Mode, which conforms to ITU-T/CCITT Recommendations, allows error-free data transmission. ECM with MMR or JBIG Coding also conforms to ITU-T/CCITT Recommendations.

### 10. Automatic Dialing Function

Up to 200 stations can be easily dialed by One-Touch Dialing or Abbreviated Dialing Function. Any other stations can be dialed directly from the keypad by entering the full telephone number (UF-895: up to 70 stations, UF-885: up to 32 stations).

### 11. Memory Transmission

The contents of a document can be stored into the document memory first, then transmitted from memory. Repeat or attendance until transmission ends is not necessary.

### 12. Multi-station Transmission

Using the document memory, the document can be transmitted to multiple destinations.



13. **Multi-file Transmission**  
It is possible to store multiple documents, each of which could be transmitted to different destinations, into the document memory. Then the unit will transmit them sequentially (max. number of files: 30 files [UF-885], 70 files [UF-895]).
14. **Deferred Communication**  
The built-in 24-hour timers allow the operator to set deferred transmissions or deferred polling. Using the document memory, documents can also be transmitted to multiple stations.
15. **Substitute Reception**  
The contents of a document will be received into the document memory if the recording paper or toner runs out, or a recording paper jam occurs during reception. The stored documents can be printed after replacing the recording paper or toner cartridge or correcting a paper jam.
16. **Multiple Operation**  
Multiple Access operations can store documents and their destinations even during reception or memory transmission. It can also receive during document storage.
17. **Halftone (Photo)**  
For transmission or copying, this function ensures high quality reproduction of gray-shaded or photographic documents. This machine uses 64 levels of error diffusion to create halftones with Quality mode.
18. **Copy Function**  
The Copy function allows the machine to be used as a copier. Using the document memory, up to 99 copies can be made of a single original.
19. **100 Transaction Journal**  
The 100 Transaction Journal provides transaction information - number of pages transmitted or received, start date and time, communication results, identification, etc. It is automatically printed after every 100 transactions, or it can be printed manually at anytime.
20. **Latest Individual Transmission Journal**  
The latest Individual Transmission Journal provides information on the last transmission - number of pages transmitted, start date and time, communication results, identification, etc. It can be printed manually at anytime after communications.
21. **Communication Journal**  
A communication journal is a result report of a communication which can be printed automatically after communication is completed. Printout conditions can be selected for each communication to 1) not print, 2) always print, or 3) print when communication has failed.
22. **Multi-purpose LCD Display**  
The 20 x 2 Alphanumeric LCD display shows the operation mode, date and time, remote ID number, and pages transmitted or received. In case of an error, the LCD display shows an information code and error message indicating the exact cause of trouble.
23. **Verification Stamp**  
The Verification Stamp is automatically stamped on the original document when the document is transmitted or stored in memory successfully. The "X" mark appears at the bottom of each page.
24. **Password Transmission**  
A password transmitted from the other party is checked to prevent the transmission of documents to an unauthorized station.
25. **Password Reception**  
A password transmitted from the other party is checked to prevent the reception of documents by an unauthorized station. The reception of junk mail, etc., is preventable.
26. **Access Code**  
The Access Code can be registered into the machine to prevent operation by an unauthorized user.
27. **Selective Reception**  
To prevent unwanted faxes from being received, the machine compares the ID Number of the transmitting machine with the telephone number stored in the built-in automatic telephone dialer.

**28. Receive to Memory**

Users can set the unit to store incoming documents into its available memory. Later, using a 4-digit password, stored documents can be printed when the user is present. This function helps ensure that important documents are not read or lost while they are sitting unattended in the fax tray.

**29. Relay Transmission Request**

By setting the machine as an initial sending station, the unit is capable of setting up a relay request to a central hub machine with a network password. Documents can then be automatically transmitted to the end receiving stations. This model is designed to operate as an initial sending station.

**30. Confidential Transmission and Polling**

The documents can be transmitted to a predetermined destination with a 4-digit confidential code utilizing the Confidential Mailbox function. Stored messages in the Confidential Mailbox can be polled by the receiver at the destination terminal.

**31. Confidential Mailbox (Proprietary)**

When the received message is stored into the memory with a 4-digit confidential code, the message can be printed on recording paper or polled by a remote station. A maximum of 20 mailboxes\* can be used. A remote confirmation report such as Confidential Memory Report and/or Confidential XMT Report is not transmitted to the source station and/or the remote station after Confidential Mailbox reception or polling transmission. (\*UF-885: 10 mailboxes)

**32. Remote Diagnostic Function**

The remote Diagnostic Function can be used to diagnose the unit remotely over the PSTN or equivalent. A new host system is required for high speed remote diagnostics to be available.

**33. Check and Call Function**

This feature enables the Authorized Servicing Dealers to manage and improve the Fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

- a. The machine's printer error information is stored in the Printer Report.
- b. The printer report can be manually printed when required.
- c. When printer errors occur, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
- d. When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.
- e. When the unit detects Low Toner, it can automatically print out the Toner Order Form with pre-registered order information.

**34. Multiple LOGO**

This operation allows the user to select one of the 25 preset LOGOs before a Transmission. The selected LOGO is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal.

**35. Department Code**

This operation requires the user to input a preset 4-digit Department Code before transmission. The Department Name of the selected Department Code is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal. When the Department Code is set, the Transaction Journal will be sorted by the Department Code number when it is printed. If you wish to prevent unauthorized persons from setting, changing or erasing Department Code settings, you should set the Access Code to restrict these settings.

**36. File Transmission**

This feature allows your machine to store the document(s) into a special File in memory. This special File can be reused for transmission to a single or multiple locations when desired. This File will remain in memory until it is manually deleted.

## **1.3 General Specifications**

**1. Communication Facility**

Public Switched Telephone Network (PSTN)

**2. Line Coupling**

Direct Coupling

3. Input Level  
-5 to -43 dbm (Germany: -5 to -46 dbm)

4. Output Level  
0 to -15 dbm

5. Control Procedure  
ITU-T/CCITT Rec. T.30  
MGCS Proprietary short protocol

6. Modem Speed

V34	:	33600 - 2400 bps @2400 step (QAM with TCM)
V.17	:	14400, 12000, TC9600, TC7200 bps (QAM with TCM)
V.33	:	14400, 12000 bps (QAM with TCM)
V.29	:	9600, 7200 bps (QAM)
V.27ter	:	4800, 2400 bps (PhM)

7. Coding Scheme  
MH (Modified Huffman), MR (Modified Read), MMR (Modified Modified Read)  
JBIG (Joint Bi-level Experts Group)

8. Communication Resolution  
<Transmission>

Standard	:	203 dpi x 98 lpi (8 pels/mm x 3.85 lines/mm)
Fine	:	203 dpi x 196 lpi (8 pels/mm x 7.70 lines/mm)
S-Fine	:	203 dpi x 391 lpi (8 pels/mm x 15.4 lines/mm)
		406 dpi x 391 lpi (16 pels/mm x 15.4 lines/mm)

<Reception>

Standard	:	203 dpi x 98 lpi (8 pels/mm x 3.85 lines/mm)
Fine	:	203 dpi x 196 lpi (8 pels/mm x 7.70 lines/mm)
S-Fine	:	203 dpi x 391 lpi (8 pels/mm x 15.4 lines/mm)
		406 dpi x 391 lpi (16 pels/mm x 15.4 lines/mm)

9. Halftone (Photo)  
64 Levels, Error Diffusion

10. Error Correction Mode  
ITU-T/CCITT Rec. T.30 ECM

11. Image Memory Capacity  
(Flash Memory)

Standard (Base)	:	60 pages (UF-885) 120 pages (UF-895)
Option (Additional)	:	80 pages (1 MB byte : UE-410045) 160 pages (2 MB byte : UE-410046) 320 pages (4 MB byte : UE-410047) 640 pages (8 MB byte : UE-410048)

(using ITU-T Image No.1 in Standard Resolution)

12. Transmission Speed  
3 Seconds using ITU-T Image No. 1 in Standard Resolution, memory to memory communication.

### 13. Automatic Dialing


Dialing Signal	:	10 PPS/20 PPS/DTMF
Dialing Method	:	
One-Touch Dialing	:	Up to 40 keys (including 8 programmable keys)
Abbreviated Dialing	:	Up to 160 stations
Manual Number Dialing (Direct Dialing)	:	Up to 70 stations (UF-895), Up to 32 stations (UF-885) (Up to 36 digits including pauses)
Programmable Dialing	:	Up to 8 programmable keys
Combination Dialing	:	Combination of One-Touch, Abbreviated and Manual Number Dialing
Multi-Station Dialing	:	Multi-Station Transmission/Polling [Up to 232 stations (UF-885), Up to 270 stations (UF-895)] Deferred Multi-Station Transmission//Polling [Up to 232 stations (UF-885), Up to 270 stations (UF-895)]
Registration Memory Capacity in One-Touch and Abbreviated Dialing		
Number of Stations	:	Up to 200 stations
Telephone number of each station	:	Up to 36 digits (Including pauses and spaces)
Station name for each station	:	Up to 15 characters
Redialing	:	
Automatic	:	Up to 15 times with 0 to 15 minute intervals
Manual	:	By pressing the Redial button (last number dialed)

### 14. Print Reduction Ratio

A4 / Letter	:	70 to 100% in 1% steps
Legal	:	85 to 100% in 1% steps (according to the received document length)

### 15. Clock Backup Battery

This unit uses a Lithium battery to save the clock and calendar.  
The service life is approximately 1 year during power failure.

 **CAUTION** denotes hazards that could result in minor injury or damage to the machine.

- THIS PRODUCT CONTAINS A LITHIUM BATTERY. DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.  
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS OF YOUR LOCAL SOLID WASTE OFFICIALS.

## 1.4 Scanner Specifications

### 1. Document Dimensions

Width	:	Minimum 148 mm Maximum 280 mm
Length	:	Minimum 128 mm Maximum 356 mm

#### Note

With operator's assistance, a maximum of 2000 mm length document can be sent (one page at a time) through the ADF.

### 2. Automatic Document Feeder

The Automatic Document Feeder feeds the originals from the document tray automatically, starting with the bottom page.

Paper thickness	:	Single-page	: 0.06 to 0.15 mm
	:	Multi-page	: 0.06 to 0.12 mm
Capacity	:	20 documents (Legal Size - 20 lb)	
	:	50 documents (Letter / A4 Size - 20 lb)	

### 3. Scanning Method

Horizontal	:	Sheet Feeding with CCD type image sensor
Vertical	:	Stepper Motor feeding

4. Effective Scanning Width : 252 mm

### 5. Scanning Resolution

Standard	:	8 pels/mm x 3.85 lines/mm
Fine	:	8 pels/mm x 7.7 lines/mm
S-Fine	:	8 pels/mm x 15.4 lines/mm
	:	16 pels/mm x 15.4 lines/mm (Interpolated)

### 6. Contrast Selection

3 steps (Normal / Lighter / Darker)

## 1.5 Printer Specifications

### 1. Recording Paper Size (W x L)

Letter	:	216 x 279 mm
Legal	:	216 x 356 mm
A4	:	210 x 297 mm

### 2. Recommended Recording Paper Weight

60 to 90 g/m<sup>2</sup>

### 3. Paper Capacity with standard cassette

500 sheets (75g/m<sup>2</sup>).

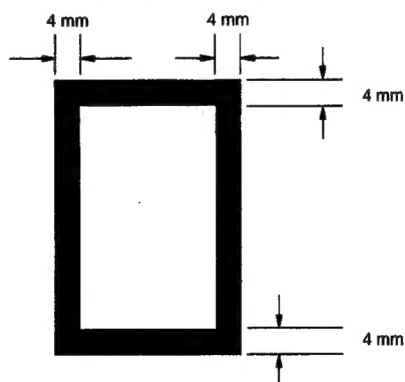
### 4. Printing Resolution

406.4 X 391.16 dpi (Fax or Copy)

600 X 600 dpi (Printer)

### 5. Non Printable Margin

The shaded areas represent the unprintable area on the recording paper.



### 6. Printing Speed

10 ppm (6 seconds/page)

### 7. Fuser Warm Up Time

Within 70 seconds after turning the power on.

[Room Temperature: 20 to 35°C]

## 1.6 Power

### 1. Power Requirement

180~264 VAC, 47~63Hz, Single Phase (200V Version)  
99~138 VAC, 47~63Hz, Single Phase (100V Version)

### 2. Power Consumption

Max	:	Approx. 470 W
Reception	:	Approx. 460 W
Copy	:	Approx. 470 W
Transmission	:	Approx. 23 W
Standby (Sleep Mode: On)	:	Approx. 1.3 W/H (200V Version)
Standby (Sleep Mode: On)	:	Approx. 1.2 W/H (100V Version)
Standby (Energy-Saver Mode: On)	:	Approx. 10 W/H
Standby (Energy-Saver Mode: Off)	:	Approx. 85 W/H
[Room temperature: 25°C]		

## 1.7 Environment

### 1. Operating Environment

Temperature	:	10 to 35°C
Relative Humidity	:	15 to 70% RH
Tilt	:	The unit must be kept on an even, level surface.

### 2. Storage Environment (Carton Box Condition)

Temperature	:	-20 to 40°C
Relative Humidity	:	5 to 85% RH

#### Note

The machine should be stored upright.

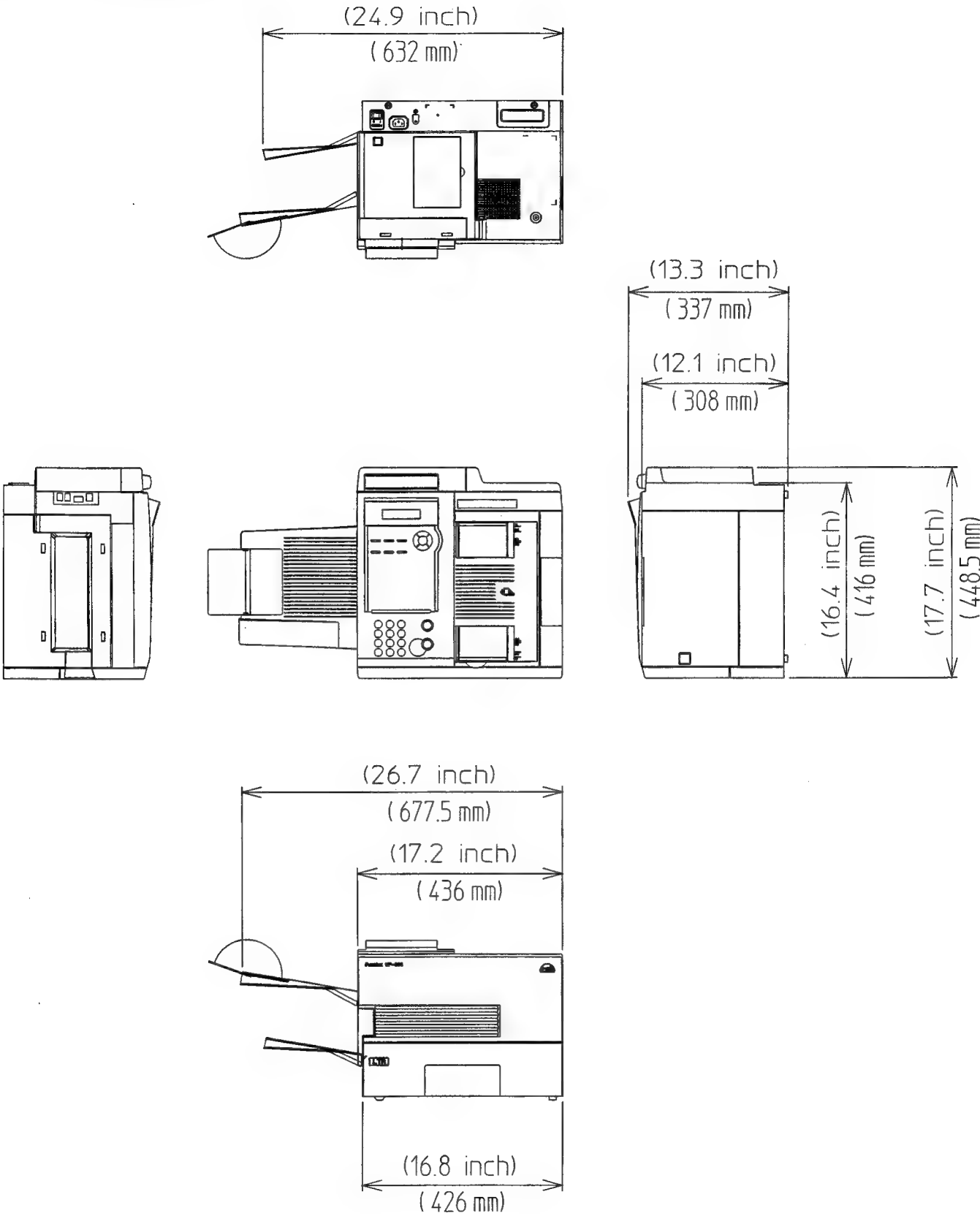
### 3. Transportation Environment (Max. 480 hours, Carton Box Condition)

Temperature	:	-20 to 50°C
Relative Humidity	:	15 to 85% RH

## 1.8 Construction

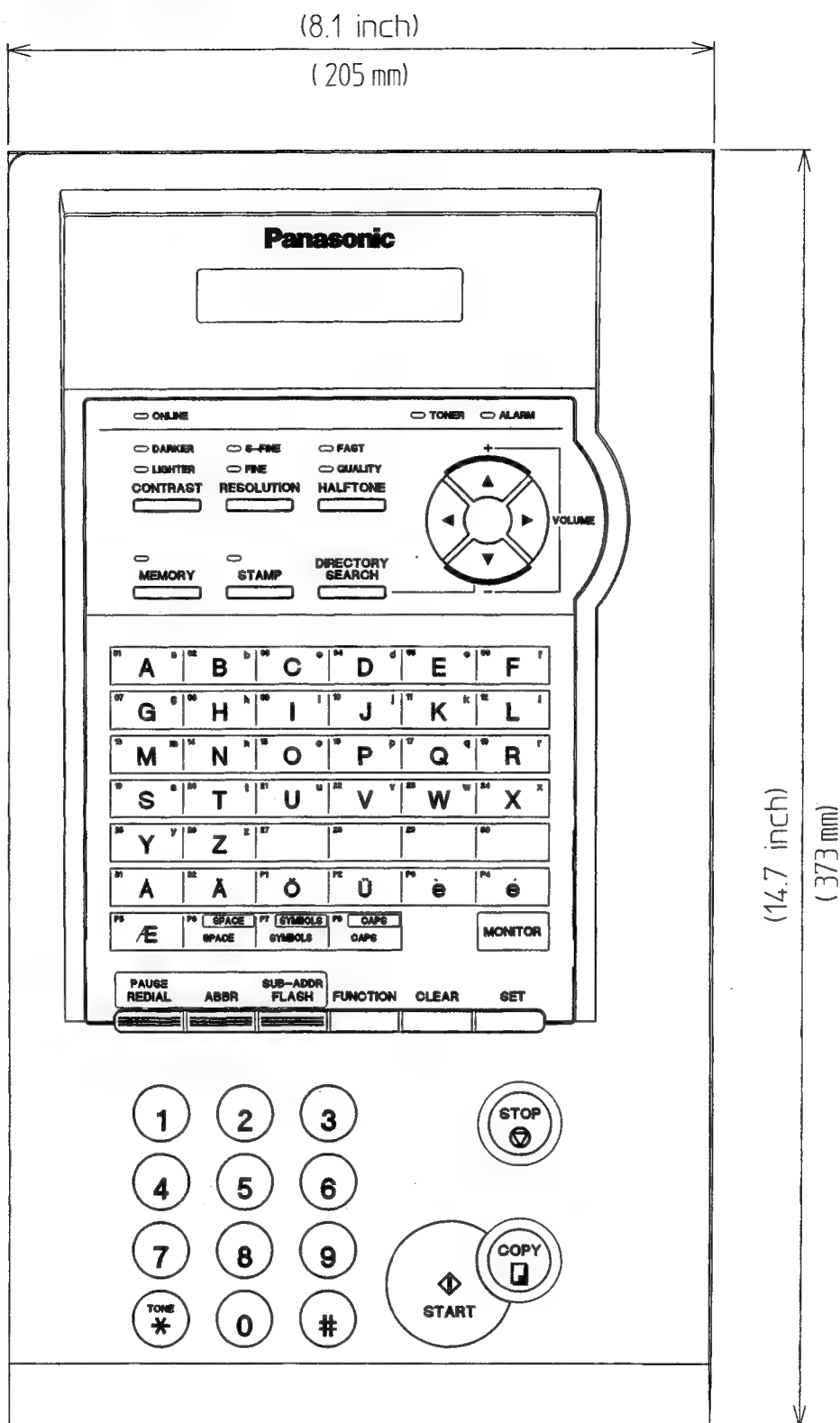
Dimensions (W x D x H)	440 x 450 x 310 mm
Weight (excluding paper)	Approximately 16 Kg

1.8.1 External View

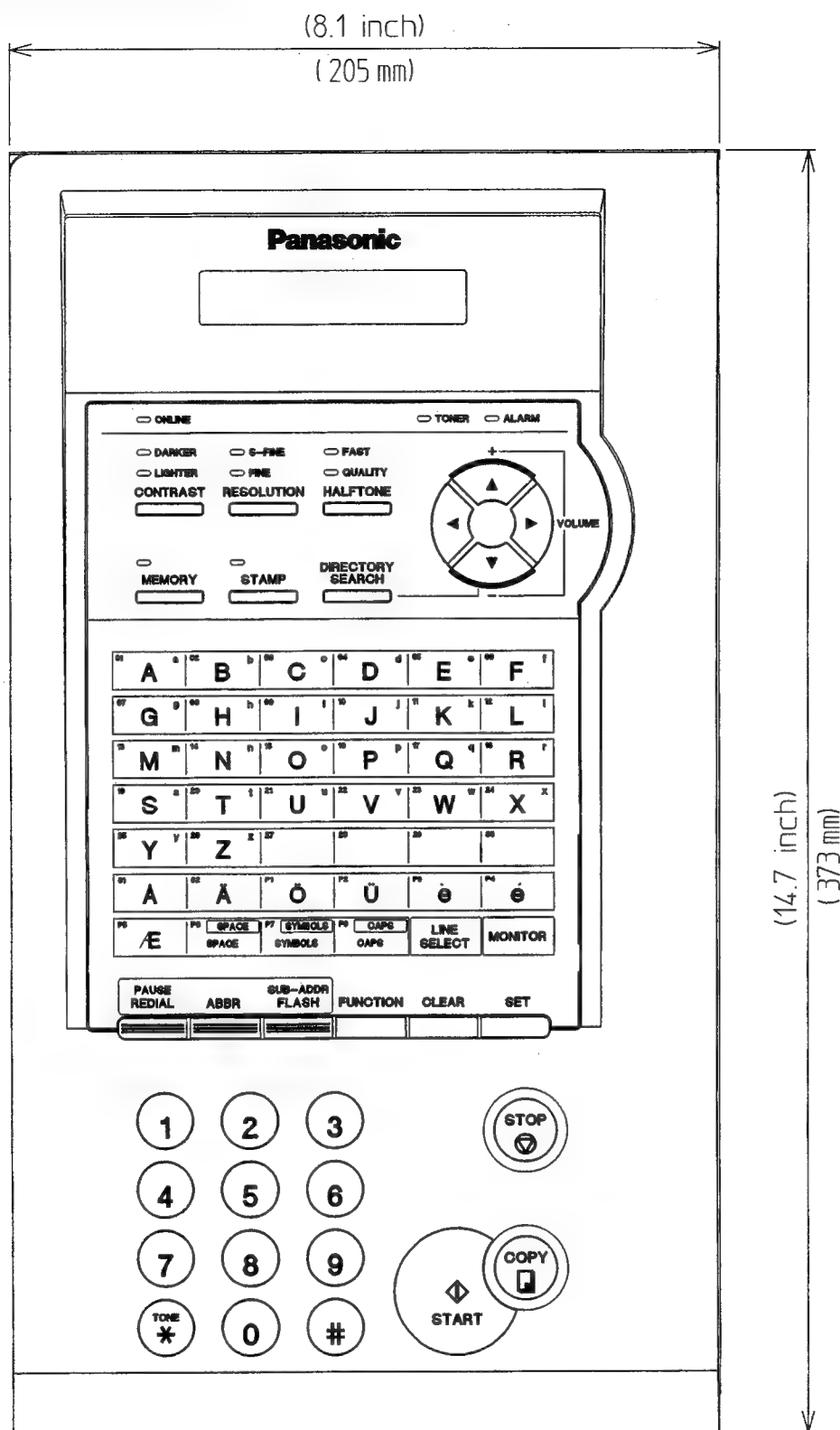




## 1.8.2 Control Panel (UF-885)



### 1.8.3 Control Panel (UF-895)



## 1.9 Function Table

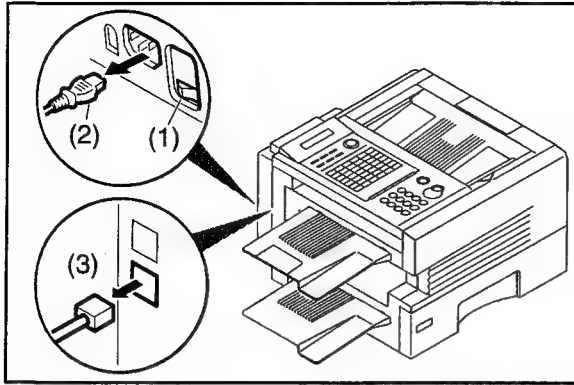
Items	UF-885	UF-895
<b>MAIN SPECIFICATION</b>		
Compatibility	G3	←
Modem Speed (kbps)	33.6 - 2.4	←
Coding Scheme	MH/MR/MMR/JBIG	←
ECM (Conforms to ITU-T/CCITT)	Yes (MMR/JBIG)	←
MWS	No	←
Short Protocol	Yes (B, D)	←
Transmission Speed (ITU-T Image No.1)	3 seconds	←
Communication Resolution (dpi x lpi) (Conforms to ITU-T/CCITT)	Tx 203 x 98 203 x 196 203 x 391 406 x 391 Rx 203 x 98 203 x 196 203 x 391 406 x 391	←
<b>SCANNER MECHANISM</b>		
ADF Capacity	50 Sheets	←
Max. Document Size	280 x 2000 mm	←
Min. Document Size	148 x 128 mm	←
Effective Scanning Width	252 mm	←
Scanning Device	CCD (B4)	←
Scanning Resolution (dpi x lpi)	203 x 98 (8 pels x 3.85 lines/mm) 203 x 196 (8 pels x 7.7 lines/mm) 203 x 391 (8 pels x 15.4 lines/mm) 406 x 391 (16 pels x 15.4 lines/mm) (Interpolated)	←
Scanning Speed (A4 size document, standard resolution)	Approx. 2.8 seconds	Approx. 1 second
Reduction XMT	Yes (B4 → A4/Letter)	←
Collation Stack	Yes	←
<b>PRINTER MECHANISM</b>		
Recording Method	Laser Printing	←
Recording Paper Size	A4/Letter/Legal	←
Recording Paper Capacity	500 sheets (Cassette)	←
Optional Recording Paper Cassette	Yes (250, 500 or 250 + 500 sheets)	←
Effective Printing Width	Letter : 208 mm A4 : 202 mm	←
Recording Resolution	406 x 391 dpi (Fax or Copy) 600 x 600 dpi (Printer)	←
Recording Speed	10 ppm (6 sec / page)	←
Heater Timer (Inc. Fan Timer)	Yes	←
Collation Stack	Yes (Memory)	←
Cassette Size Detector	Yes	←
<b>DOCUMENT MEMORY</b>		
Document Memory Capacity (Flash Memory)	60 pages (1 MB)	120 pages (2 MB)
Optional Document Memory (Flash Memory)	Yes 1 MB : +80 pages 2 MB : +160 pages 4 MB : +320 pages 8 MB : +640 pages	←
Document Memory Backup	Yes (Permanent)	←
Optional Document Memory Backup	No (not required)	←
<b>PRINTER PAGE MEMORY</b>		
Optional Page Memory (D-RAM Memory)	Yes	←
2 MB	Yes	←
4 MB	Yes	←
8 MB	Yes	←
<b>COPY QUALITY</b>		
ABC	Yes	←
Contrast Selection	Yes (3 levels) [New Type]	←
Halftone (Photo)	64 levels Error Diffusion, Fast and Quality Mode	←

Items	UF-885	UF-895
Super Fine (dpi x lpi)	203 x 391 406 x 391	←
Smoothing	Yes (Copy and Fax) No (PC Printing)	←
<b>MULTIPLE OPERATIONS</b>		
Multiple Operation	Yes	←
Direct XMT Reserve	Yes	←
Memory XMT Reserve	Yes	←
<b>DIALING FEATURES</b>		
One-Touch Keys	32	←
One-Touch/Program Keys	8	←
Auto dialing locations	200	←
One-Touch Auto Dialing	40	←
Abbr. Auto Dialing	160	←
Max. digits on AD	36	←
Max. ID characters on AD	15	←
Alternative Abbr. Dialing	No	←
Full Number Dialing	32 stations	70 stations
Redialing	Yes	←
Combination Dialing	Yes (On Monitor Dialing Mode only)	←
Directory Search Dialing	Yes	←
Line Monitor Speaker	Yes	←
Pulse/Tone change	Yes	←
Flash Key	Yes	←
<b>TRANSMISSION FEATURES</b>		
Memory Transmission	Yes	←
Multi-Station Transmission	Yes (232 stations)	Yes (270 stations)
Multifile Transmission	Yes (30 files)	Yes (70 files)
Deferred Transmission	Yes (30 timers)	Yes (70 timers)
Deferred Multi-Station Transmission	Yes (30 timers, 232 stations)	Yes (70 timers, 270 stations)
Priority Transmission	Yes (ADF TX Reserve)	←
Batch Transmission	Yes (Up to 5 files)	←
Cover Sheet	Yes	←
<b>RECEPTION FEATURES</b>		
Substitute Memory Reception	Yes	←
Auto Reduction to A4 / Letter	Yes (70-100%)	←
Auto Reduction to Legal	Yes (85-100%)	←
Overlapping Print	Yes	←
Fax/Tel Auto Switch	No	←
TAM Interface	No	←
Parallel TAM hookup	No	←
Receive to Memory	Yes	←
Remote Reception	No	←
Distinctive Ring Detector	Yes (Specific countries only)	←
<b>POLLING FEATURES</b>		
Polling	Yes	←
Turnaround Polling	No	←
Multi-Station Polling	Yes (232 Stations)	Yes (270 Stations)
Continuous Polling Tx	Yes (Station mode)	←
Continuous Polling Rx	Yes	←
Deferred Polling	Yes (30 timers)	Yes (70 timers)
Deferred Multi-Station Polling	Yes (30 timers, 232 stations)	Yes (70 timers, 270 stations)
Direct Polling TX	Yes (Select the function by parameter 03 "Continuous Polling".)	←
Memory Polling TX	Yes (1 file)	←
Preset Polling Password	Yes	←
Temporary Polling Password	Yes	←
<b>COPY FUNCTIONS</b>		
Single Copy	Yes	←
Multiple Copy	Yes (99 copies)	←
Copy Enlargement	No	←
Copy Reduction	Yes (Zoom Ratio: 70 - 100%)	←
Copy Resolution	406 x 391 lpi	←
<b>CERTAINTY</b>		
Verification Stamp	Yes	←
Header / Total Page Print	Yes	←
Comm. Journal	Yes (w / Image)	←

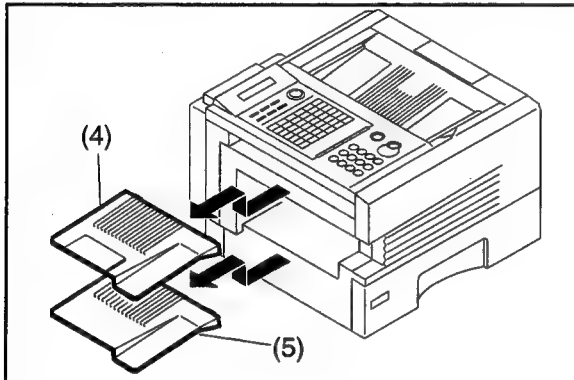
Items	UF-885	UF-895
Transaction Journal	Yes (100)	←
Last Individual XMT Journal	Yes	←
View Mode	Yes	←
<b>LIST PRINTOUTS</b>		
One-Touch List	Yes	←
Abbr. No. List	Yes	←
Program List	Yes	←
Directory Search List	Yes	←
Fax Parameter List	Yes	←
File List	Yes	←
Character Code List	No	←
Directory Sheet	Yes	←
Callback Message	No	←
<b>IDENTIFICATIONS</b>		
Logo/TTI	25 characters	←
Multiple Logo	Yes (25)	←
Character ID	16 characters	←
Numeric ID	20 digits	←
<b>SPECIAL COMM.</b>		
Password XMT/RCV (Closed Network)	Yes	←
Selective Reception (TSI check)	Yes	←
Relay XMT Request	Yes	←
Relay XMT Center	No	←
Confidential XMT/Polling	Yes	←
Confidential Comm. Center	No	←
Mailbox XMT/Polling	Yes	←
Mailbox Center	Yes (10 boxes)	Yes (20 boxes)
OMR-XMT	No	←
Sub-Address XMT	Yes (T. Routing)	←
Sub-Address RCV	Yes (T. Routing with PC I/F)	←
File Transmission	Yes	←
<b>OTHERS</b>		
Access Code	Yes	←
Pin Code Access (PBX Access Code)	No	←
Department Code	Yes (24)	←
Panel Display	20 x 2 Alphanumeric LCD	←
Logo Input Method	Character Keys	←
Remote Diagnostic Function	Yes	←
Internal Demo	No	←
2-W Leased Line	No	←
AI Redial	Yes (Up to 5 files)	←
Auto Multi-copy	No	←
Auto-Forwarding	Yes	←
Check & Call Function	Yes	←
<b>OPTIONS</b>		
G3 Communication Port	No	Yes
Scanner Interface	Yes	←
Printer Interface (PDL)	Yes (PCL6)	←
Printer Interface	Yes (300/600 dpi)	←
Encryption Interface	No	←
V24 Interface	No	←
PC Interface	Yes	←
<b>CONSTRUCTION</b>		
Telephone Handset	Yes (Optional)	←
Dimensions (W x D x H)	440 x 450 x 310 mm	←
Weight	16 Kg	←



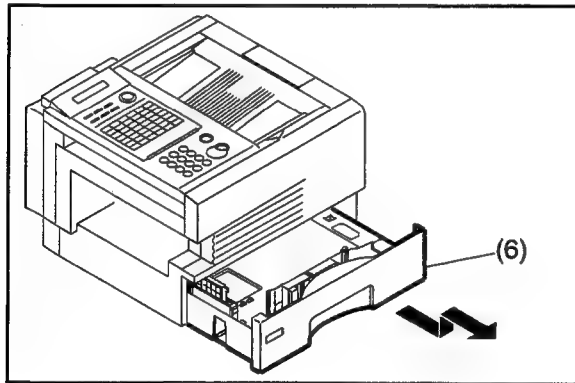
## 2.2 Power Cord (1108), Telephone Line Cable (1107), Document Return Tray (138 and 139), Recording Paper Tray (1106), Paper Cassette (1018)



- (1) Turn the **Power Switch "OFF"**.
- (2) Disconnect the **Power Cord (1108)**.
- (3) Disconnect the **Telephone Line Cable (1107)**.



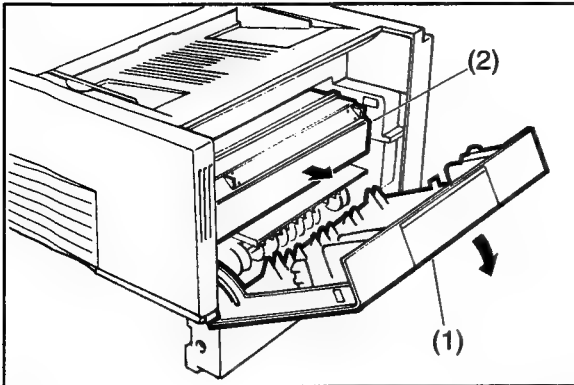
- (4) Remove the **Document Return Tray (138 and 139)**.
- (5) Remove the **Recording Paper Tray (1106)**.



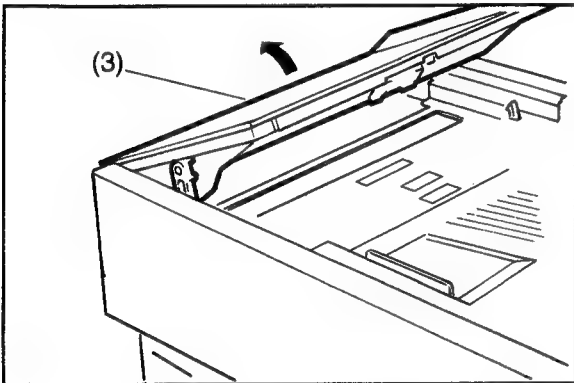
- (6) Remove the **Paper Cassette (1018)**.



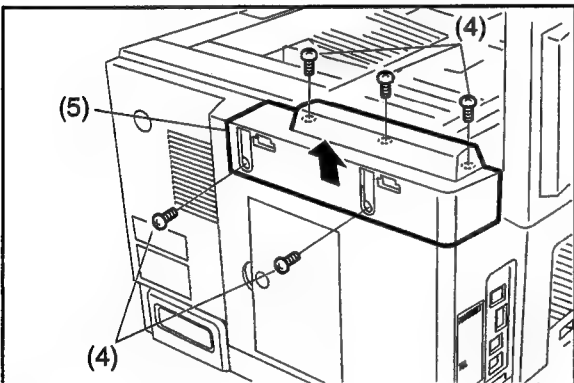
## 2.3 Sub Rear Cover (114), Rear Cover (108), Left Side Cover (107), Front Cover (105), Speaker (133)



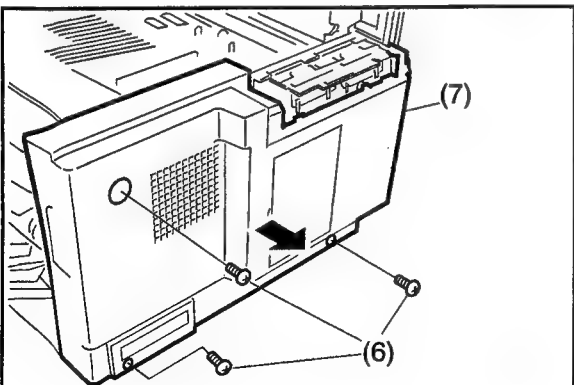
- (1) Open the **Printer Cover (122)**.
- (2) Remove the **Toner Cartridge**.



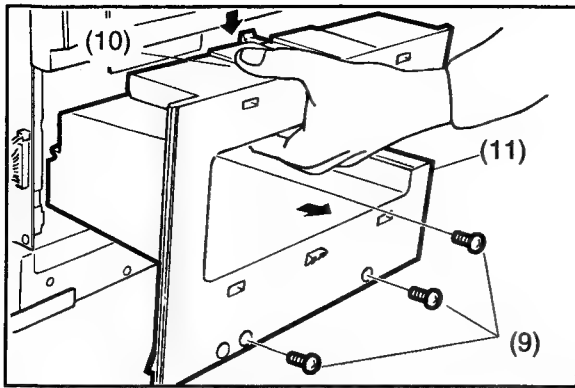
- (3) Open the **Control Panel Unit**.



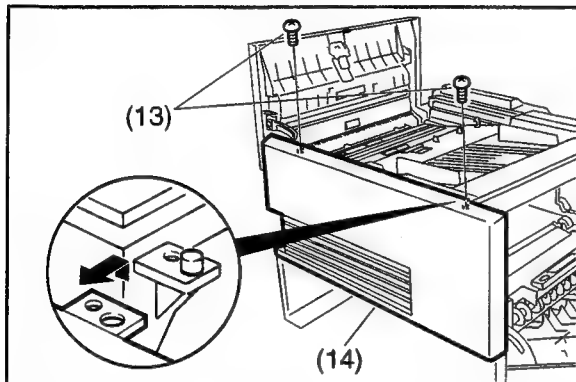
- (4) **5 Screws (B1)**.
- (5) Remove the **Memory Card Cover (115)** and the **Sub Rear Cover (114)**.



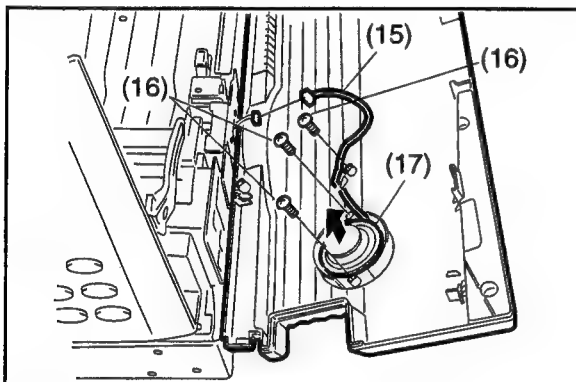
- (6) **3 Screws (B1)**.
- (7) Remove the **Rear Cover (108)**.



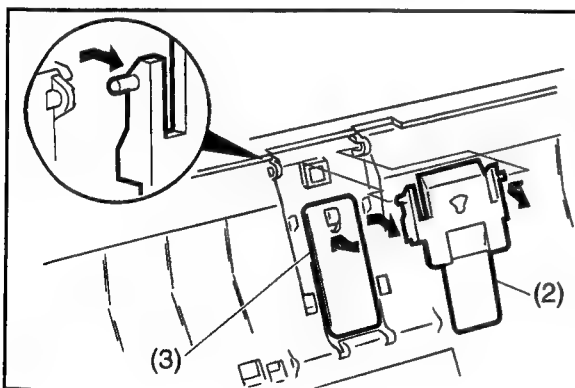
- (8) Close the **Control Panel Unit**.
- (9) 3 **Screws (B1)**.
- (10) Hold in the center and release the Latch Hook.
- (11) Remove the **Left Side Cover (107)**.



- (12) Open the **Control Panel Unit**.
- (13) 2 **Screws (B1)**.
- (14) Release the hook and remove the **Front Cover (105)**.



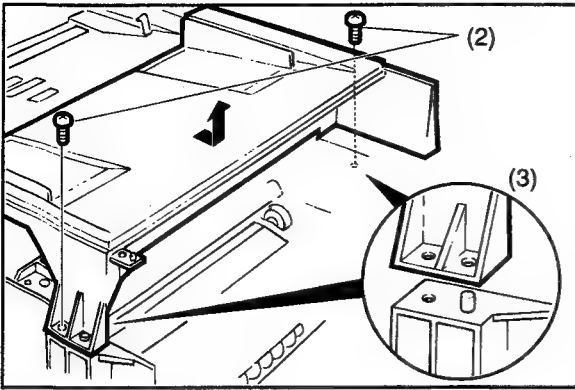
- (15) Disconnect **Connector** on the Speaker Harness.
- (16) 2 **Screws (B1)**, 1 **Screw (1Y)**.
- (17) Remove the **Speaker Assembly (133)**.



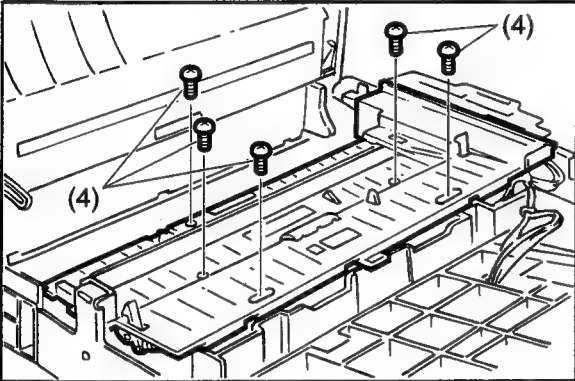
#### **Cleaning Separation Rubber (229)**

- (1) Open the **Control Panel Unit**.
- (2) Remove the **Pre-Feed Cover (223)**.
- (3) Remove the **Separation Rubber (229)**.
- (4) Clean the **Separation Rubber (229)** with a soft cloth, soaked with isopropyl alcohol.

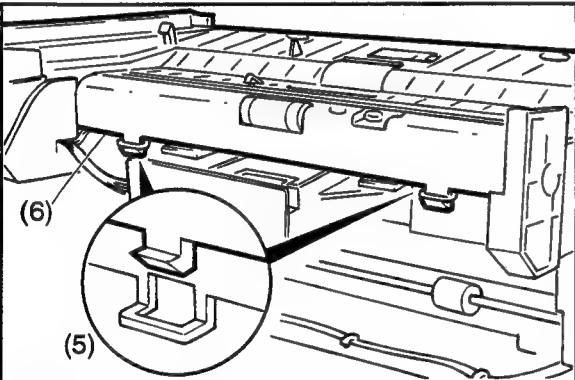
## 2.4 Paper Guide Cover (110), Transmit Guide (117), SNS Assembly (121)



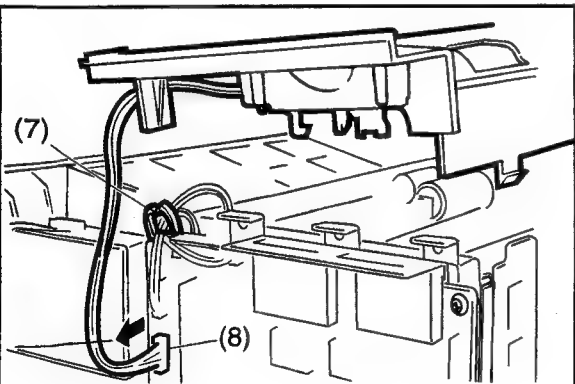
- (1) Remove the **Front Cover** (105) and the **Rear Cover** (108) (Refer to 2.3).
- (2) 2 **Screws** (19).
- (3) Remove the **Paper Guide Cover** (110).



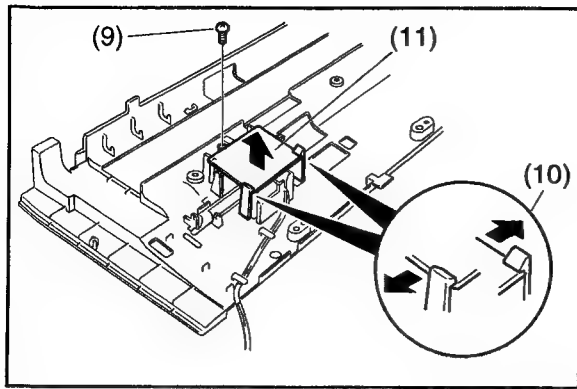
- (4) 5 **Screws** (19).



- (5) Release two **Latch Hooks**.
- (6) Remove the **Transmit Guide** (117).

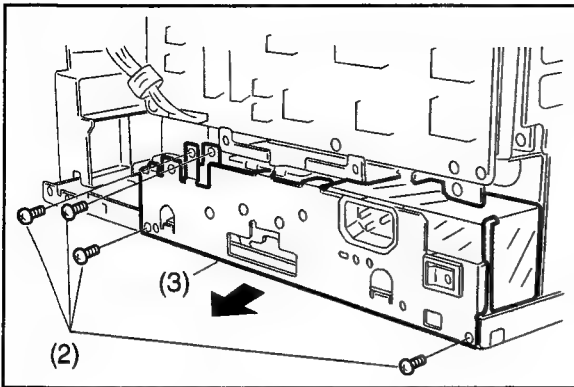


- (7) Remove the **SNS Assembly Harness** from the **clamp**.
- (8) Disconnect **Connector CN7** on the **FCB PC Board**.

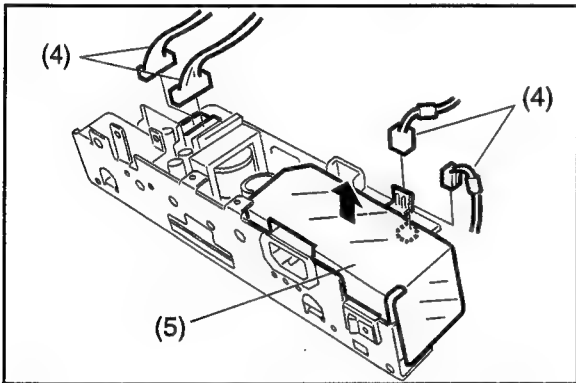


- (9) 1 **Screw** (19).
- (10) Release two Latch Hooks.
- (11) Remove the **SNS Assembly** (121).

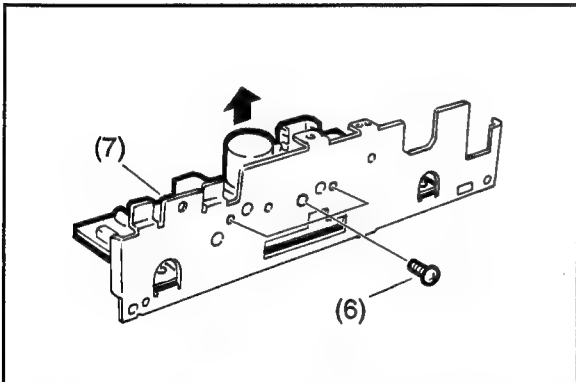
## 2.5 Low Voltage Power Supply Unit (502), FCB PC Board (522), LCU PC Board (519), LPC PC Board (555), Control Panel Unit, PNL PC Board (214)



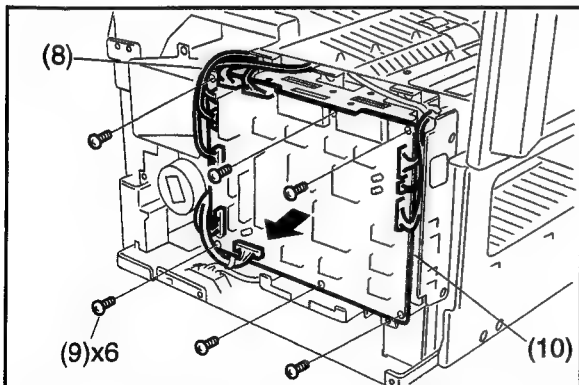
- (1) Remove the **Left Side Cover** (107) and the **Rear Cover** (108) (Refer to 2.3).
- (2) 4 **Screws** (19).
- (3) Pull out the **Low Voltage Power Supply Assembly**.



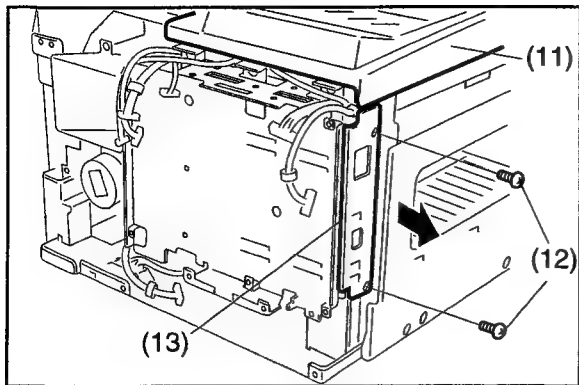
- (4) Disconnect 4 **Connectors** on the Low Voltage Power Supply Assembly.
- (5) Remove the **Mylar Shield** (508).



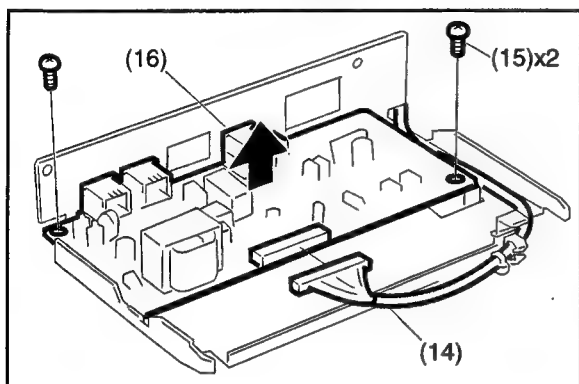
- (6) 3 **Screws** (19).
- (7) Remove the **Low Voltage Power Supply Unit** (502).



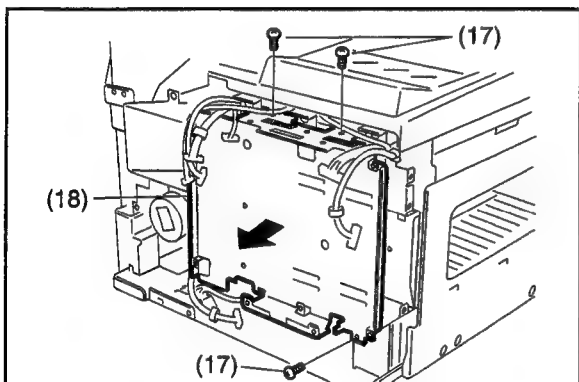
- (8) Disconnect all **Connectors** on the FCB PC Board.
- (9) 6 **Screws** (C8).
- (10) Remove the **FCB PC Board** (522).



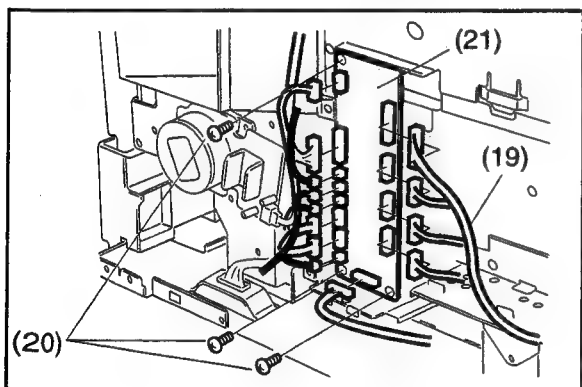
- (11) Close the **Control Panel Unit**.
- (12) 2 **Screws** (19).
- (13) Remove the **LCU Bracket** (512).



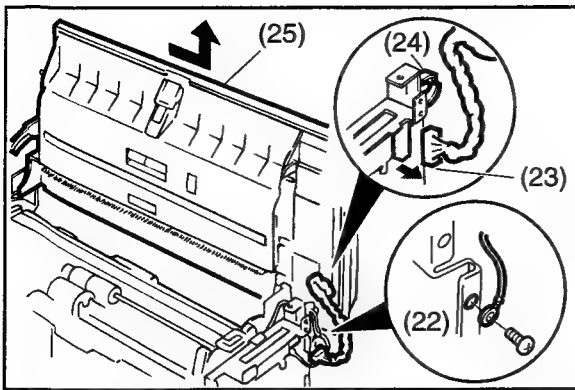
- (14) Disconnect **Connector CN25** on the LCU PC Board.
- (15) 2 **Screws** (C8).
- (16) Remove the **LCU PC Board** (519).



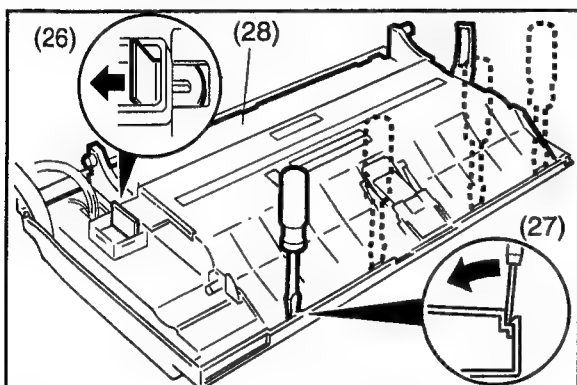
- (17) 3 **Screws** (19).
- (18) Remove the **FCB Bracket** (523).



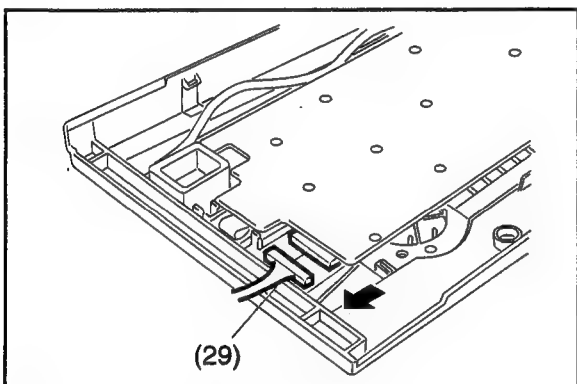
- (19) Disconnect all **Connectors** on the LPC PC Board.
- (20) 3 **Screws** (C8).
- (21) Remove the **LPC PC Board** (555).



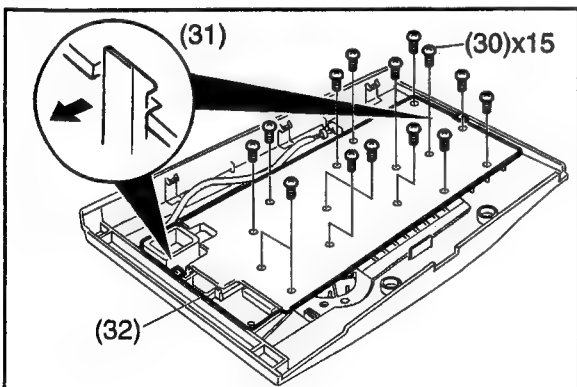
- (22) 1 Screw (19) and remove the **Ground Strap** (540).
- (23) Disconnect **Connector CN11** on the FCB PC Board.
- (24) Remove the Harness from the clamp.
- (25) Remove the **Control Panel Unit**.



- (26) Remove the **Battery Holder** (1114) Assembly.
- (27) Release 4 Latch Hooks.
- (28) Remove the **Control Panel Chassis** (216).

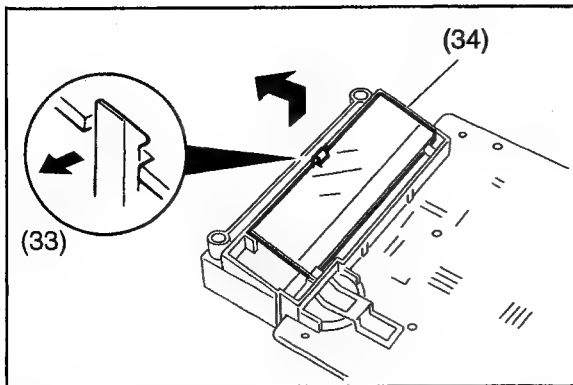


- (29) Disconnect **Connector CN41** on the PNL PC Board.

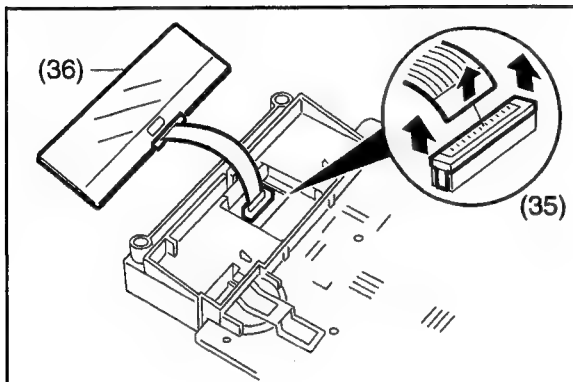


- (30) 15 **Screws** (7B).
- (31) Release two Latch Hooks.
- (32) Remove the **PNL PC Board** (214).

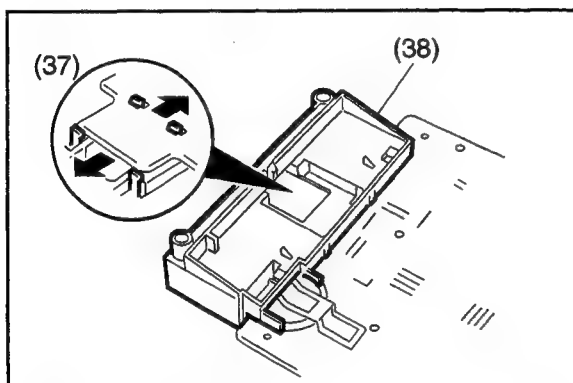




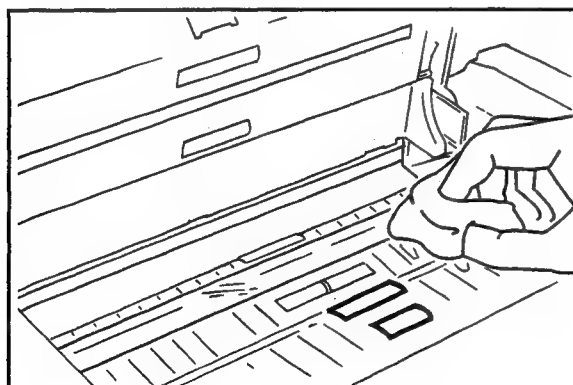
- (33) Release Latch Hook.  
 (34) Carefully lift the **LCD Unit** (215).



- (35) Disconnect **Connector CN42** on the PNL PC Board.  
 (36) Remove the **LCD Unit** (215).

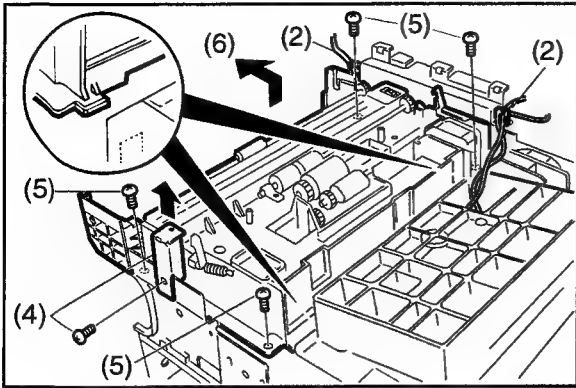


- (37) Release 4 Latch Hooks on the back of the LCD Holder.  
 (38) Remove the **LCD Holder** (232).

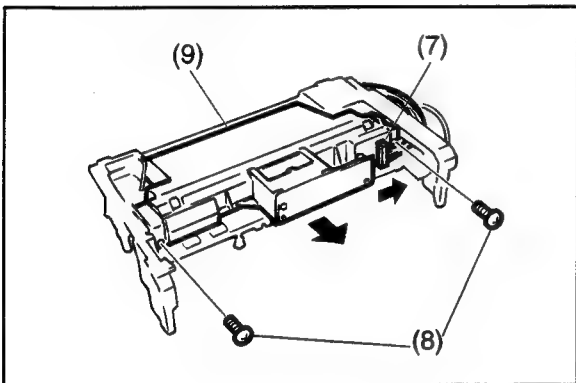


- Cleaning ADF Roller (323), Pre-Feed Roller (325), Feed Roller (328), Eject Roller (330) and the Scanner Glass (341)**  
 (1) Open the **Control Panel Unit**.  
 (2) Clean the **ADF Roller (323), Pre-Feed Roller (325), Feed Roller (328), Eject Roller (330)** and the **Scanner Glass (341)** with a soft cloth, soaked with isopropyl alcohol.

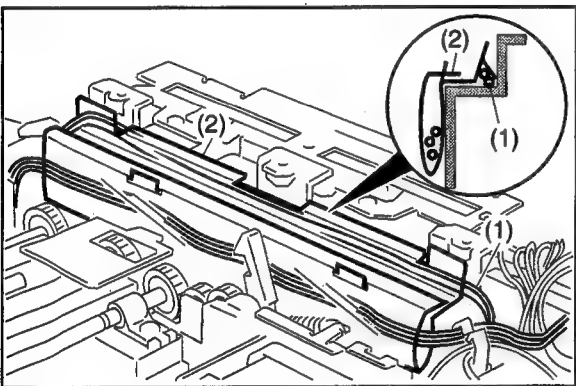
## 2.6 Transmitter Chassis (301), Scanner Assembly (340), LED Array Assembly (333), Verification Stamp Assembly



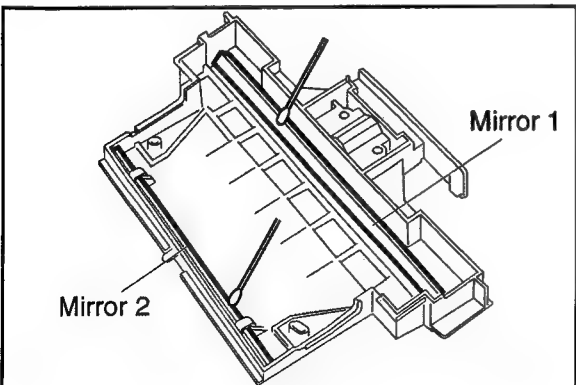
- (1) Remove the **Front Cover (105)**, **Rear Cover (108)** (Refer to 2.3) and the **Control Panel Unit** (Refer to 2.5).
- (2) Remove all the harnesses from the clamps.
- (3) Disconnect **Connector CN8** on the FCB PC Board.
- (4) 1 **Screw** and remove the **Front Bracket 2 (136)**.
- (5) 4 **Screws (19)**.
- (6) Remove the **Transmitter Chassis (301) Assembly**.



- (7) Disconnect **Connector CN30** on the CCD PC Board.
- (8) 2 **Screws (19)**.
- (9) Remove the **Scanner Assembly (340)**.

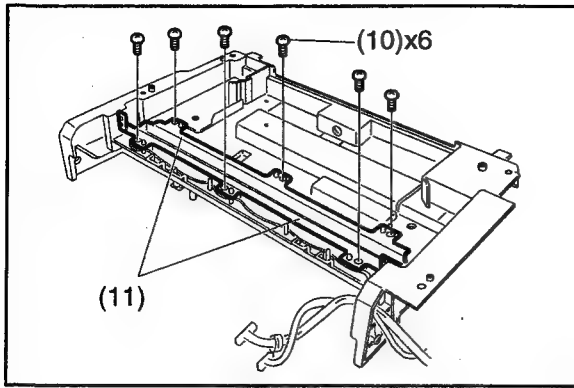


- Note:** When reinstalling the CCD Harness,
1. Separate the **CCD Harness (545)** from the other harnesses.
  2. Place the other harnesses into the **Harness Protector Film (556)**.



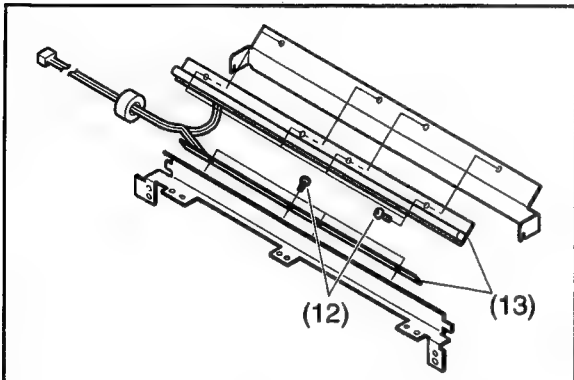
### **Cleaning Mirror 1 (337), Mirror 2 (338)**

Clean the **Mirror 1 (337)** and **Mirror 2 (338)** with a soft cloth, soaked with isopropyl alcohol.



(10) 6 Screws (19).

(11) Remove the **LED Array Bracket 1** (332) and **LED Array Bracket 2** (351).

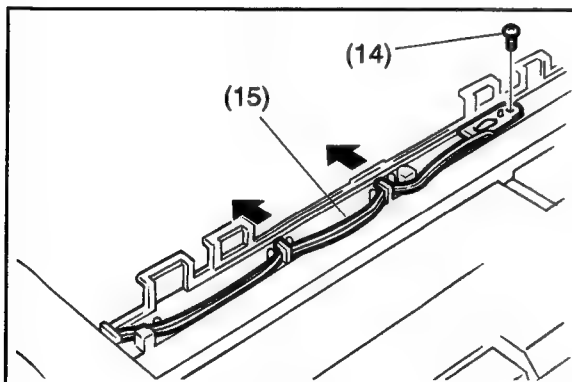


(12) 8 Screws (9H).

(13) Remove two **LED Array Assemblies** (333).

**Note:**

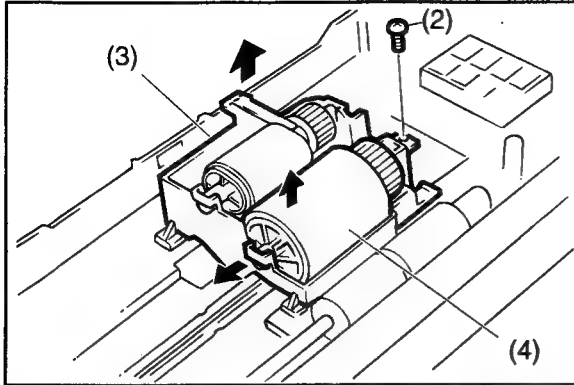
UF-885 has only one LED Array Assembly.



(14) 1 Screw (19).

(15) Remove the **Stamp Holder** (334) and **Stamp Solenoid** (335).

## 2.7 ADF Roller (323), Pre-Feed Roller (325), Eject Roller (330), Feed Roller (328), Transmission Gear Assembly, Transmit Motor (346)

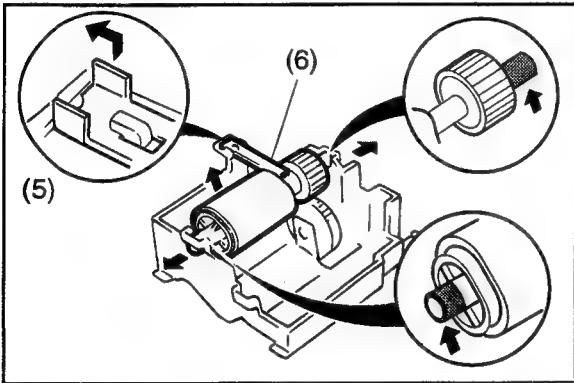


(1) Remove the **Front Cover (105)**, **Rear Cover (108)** (Refer to 2.3), **Control Panel Unit** (Refer to 2.5) and the **Transmitter Chassis (301) Assembly** (Refer to 2.6).

(2) 1 **Screw (19)**.

(3) Remove the **ADF Bracket (317) Assembly**.

(4) Remove the **ADF Roller (323)**.

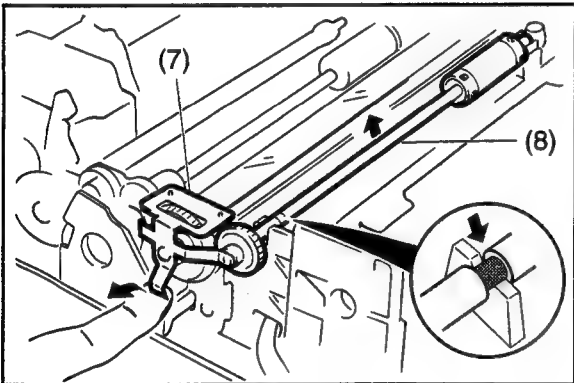


(5) Remove the **Pressure Spring Plate (324)**.

(6) Remove the **Pre-Feed Roller (325)**.

**Note:**

Apply Molykote EM-50L Grease to the Pre-Feed Roller (325).

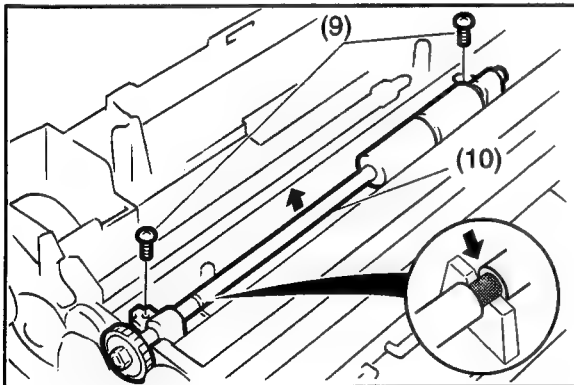


(7) Remove the **Ground Spring Plate A (316)**.

(8) Remove the **document Eject Roller (330)**.

**Note:**

Apply Molykote EM-50L Grease to the Eject Roller (330).

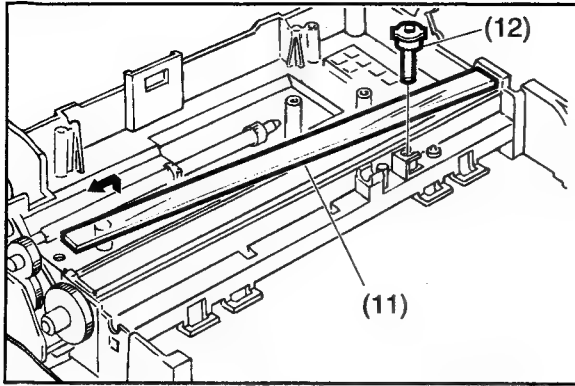


(9) 2 **Screws (19)**.

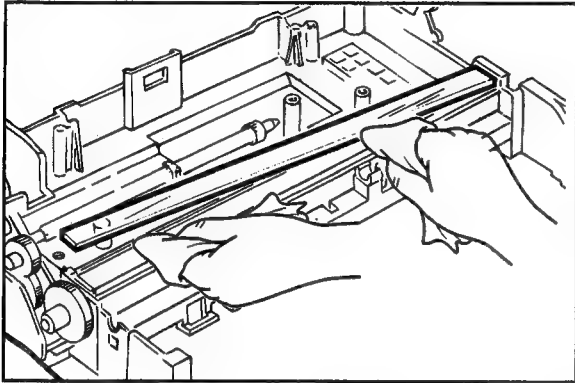
(10) Remove the **Feed Roller (328)**.

**Note:**

Apply Molykote EM-50L Grease to the Feed Roller (328).

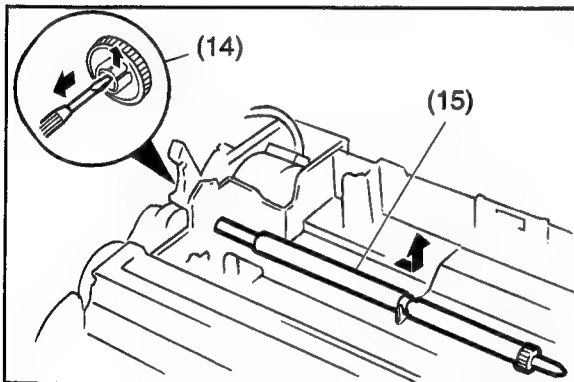


- (11) Remove the **Scanner Glass** (341).
- (12) Remove the **Stamp Head Assembly**.



**Note:**

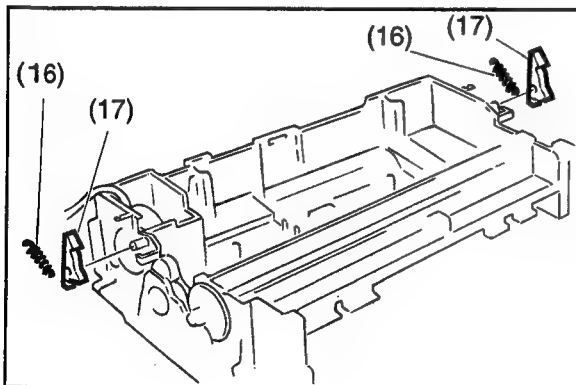
Before reassembling, clean both sides of the Scanner Glass (341) with a soft cloth, soaked with isopropyl alcohol.



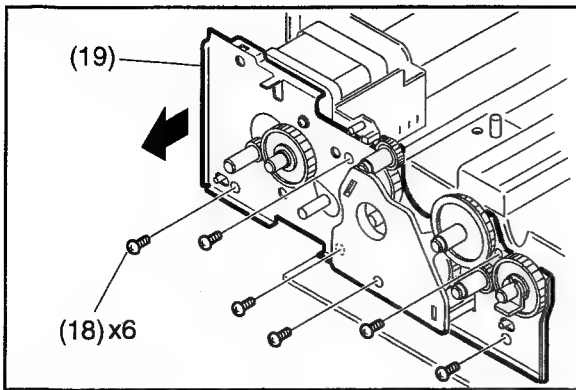
- (13) Release the hook on the drive gear.
- (14) Remove the **B31B61 Drive Gear** (314).
- (15) Remove the **Idle Shaft** (331) and the **B18 Drive Gear** (348).

**Note:**

Apply Molykote EM-50L Grease to the Idle Shaft (331).

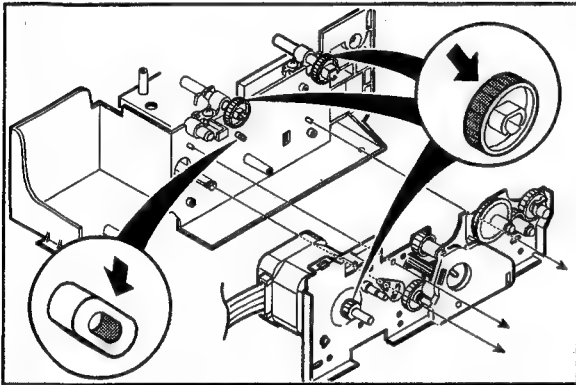


- (16) Remove 2 **Latch Coil Springs** (303).
- (17) Remove 2 **Latches** (302).



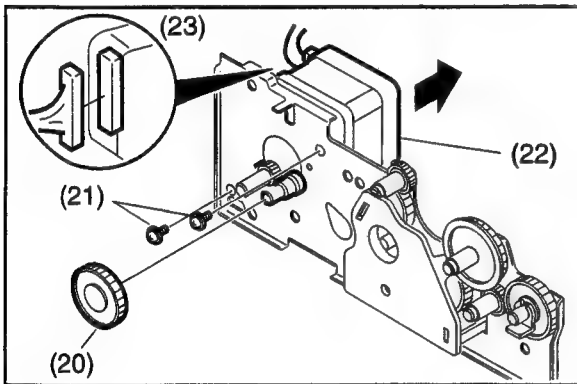
(18) 6 Screws (19).

(19) Remove the **Motor Bracket A** (304) with the Transmission Gear Assembly.



**Note:**

Apply Molykote EM-50L Grease to the Transmit Motor (346) Gear, B35 Drive Gear (Feed Roller) (326) and B35 Drive Gear (Eject Roller) (326).



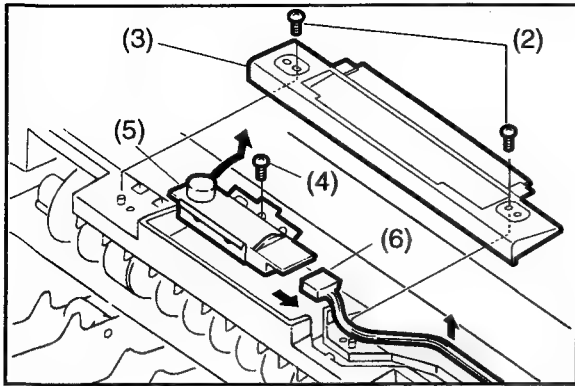
(20) Remove the **B30 Gear** (307).

(21) 2 **Screws** (36).

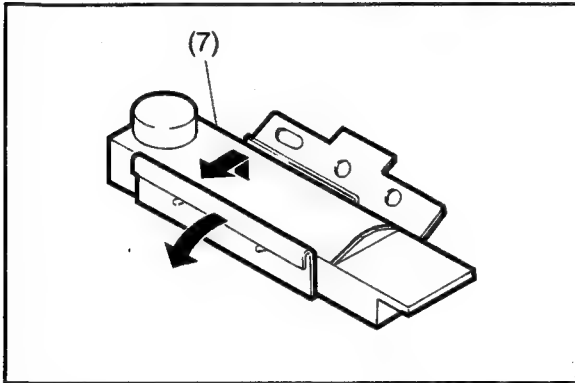
(22) Remove the **Transmit Motor** (346).

(23) Remove the **TMOT Harness** (347).

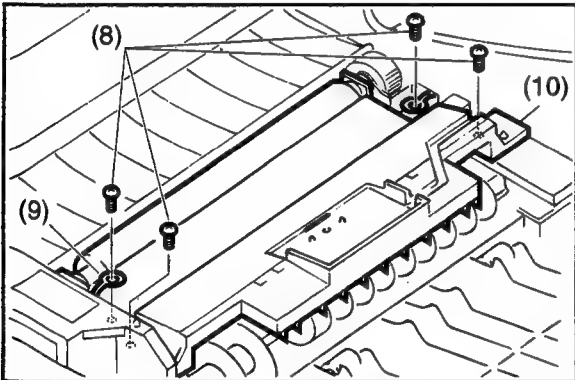
## 2.8 Toner Sensor (639), Timing Sensor (610), Bias Transfer Roller (630)



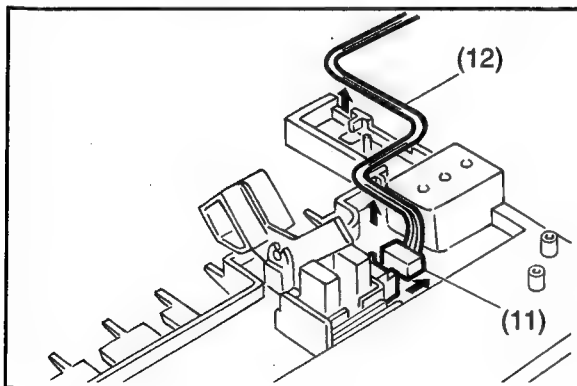
- (1) Open the **Printer Cover** (122) (Refer to 2.3).
- (2) 2 **Screws** (19).
- (3) Remove the **Toner Sensor Cover** (640).
- (4) 1 **Screw** (19).
- (5) Remove the **Toner Sensor Assembly**.
- (6) Disconnect **Connector** and remove the **Harness** from the Upper Transport Guide.



- (7) Remove the **Toner Sensor** (639).

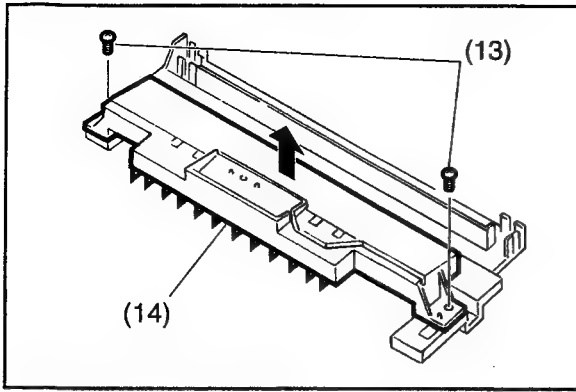


- (8) 4 **Screws** (19). (Remove the resistor screw first)
- (9) Remove the **Ground Strap** (653).
- (10) Remove the **Transport Unit**.



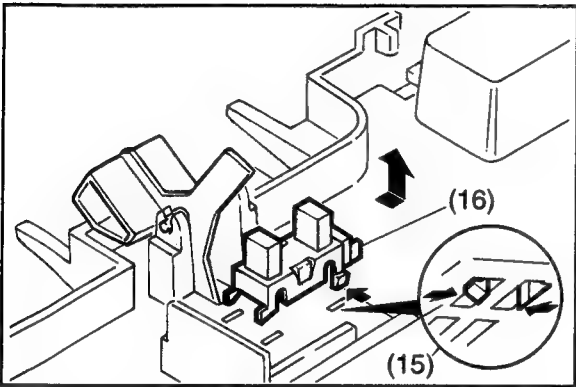
- (11) Disconnect **Connector** from the Timing Sensor.
- (12) Remove the **Harness** from the Transport Unit.





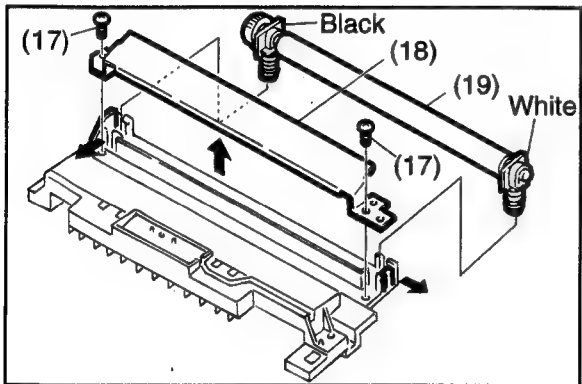
(13) 2 Screws (19).

(14) Remove the **Upper Transfer Guide** (635).



(15) Release 2 Latch Hooks.

(16) Remove the **Timing Sensor** (610).

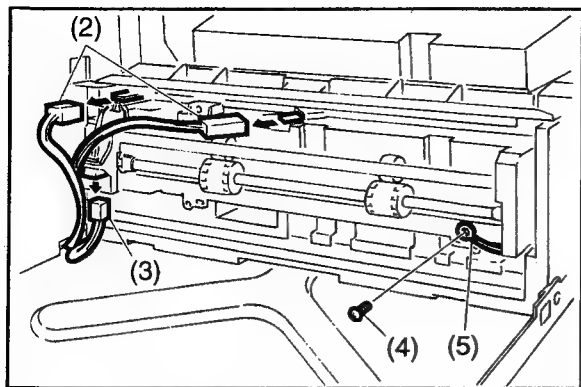


(17) 2 Screws (19).

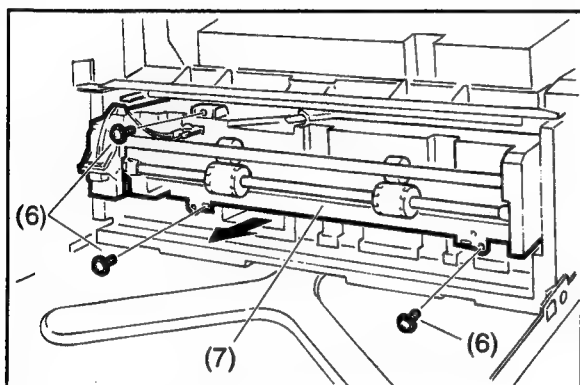
(18) Remove the **BTR Guide** (629).

(19) Remove the **Bias Transfer Roller** (630).

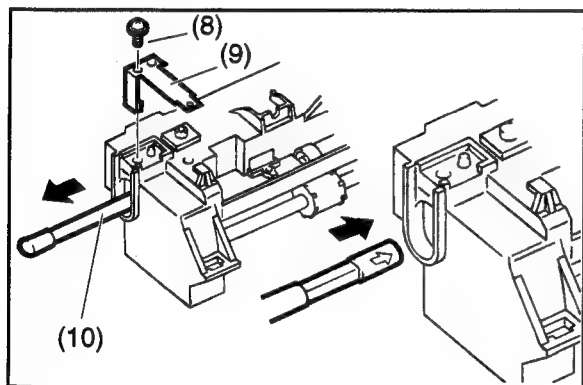
## 2.9 Fuser Unit (431), Fuser Lamp (408), Thermistor Assembly (405), Paper Exit Sensor (610)



- (1) Remove the **Left Side Cover** (107) (Refer to 2.3).
- (2) Disconnect 2 **Connectors**.
- (3) Disconnect the **Relay Connector**.
- (4) 1 **Screw** (19).
- (5) Remove the **Ground Strap** (653).



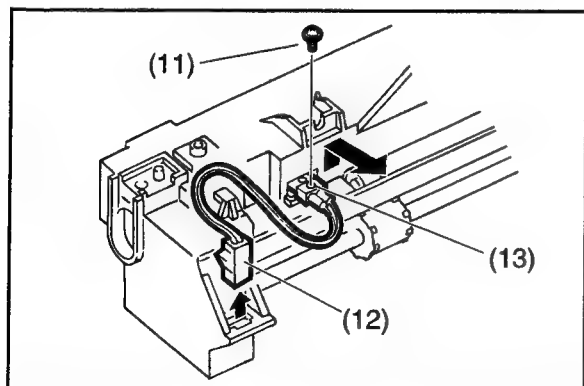
- (6) 3 **Screws** (4N).
- (7) Remove the **Fuser Unit** (431).



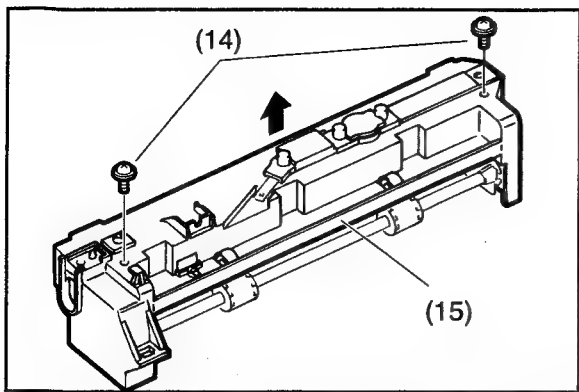
- (8) 1 **Screw** (23).
- (9) Remove the **Fuser Lamp Terminal C** (404).
- (10) Remove the **Fuser Lamp** (408).

### Caution:

When re-installing the Fuser Lamp, make sure that the Fuser Lamp is inserted into the Fuser Unit as illustrated on the left. Do not touch the glass portion of the Fuser Lamp with bare hands. Grease from the fingerprints will shorten its life cycle, use isopropyl alcohol to clean fingerprints.

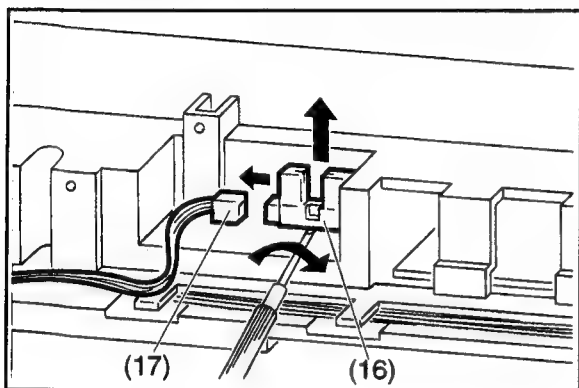


- (11) 1 **Screw** (1Q).
- (12) Disconnect **Connector**.
- (13) Remove the **Thermistor Assembly** (405).



(14) 2 **Screws** (23).

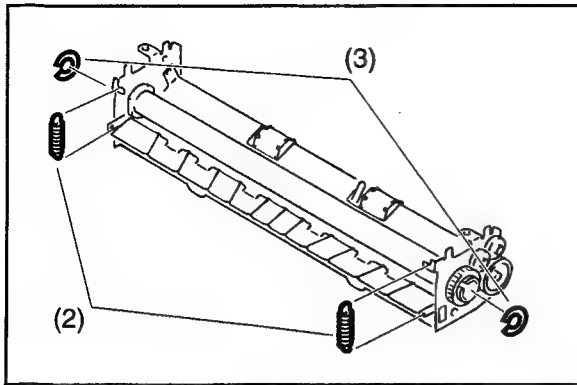
(15) Remove the **Fuser Cover** (401).



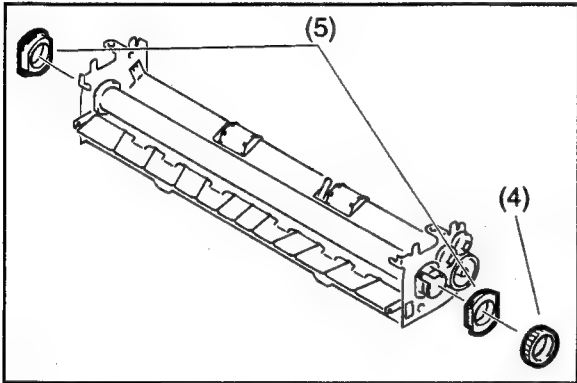
(16) Remove the **Paper Exit Sensor** (610).

(17) Disconnect **Connector**.

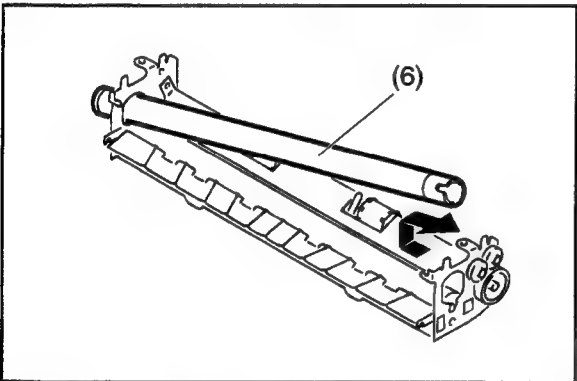
## 2.10 Fuser Roller (414), Pressure Roller (409), Eject Roller (422)



- (1) Remove the **Fuser Unit (431)** (Refer to 2.9).
- (2) 2 **Pressure Springs (412)**.
- (3) 2 **C-Rings (418)**.



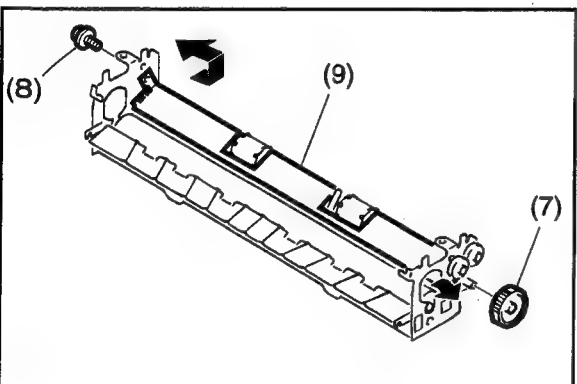
- (4) Remove the **E24 Drive Gear (417)**.
- (5) Remove 2 **P17L6.8 Bushings (416)**.



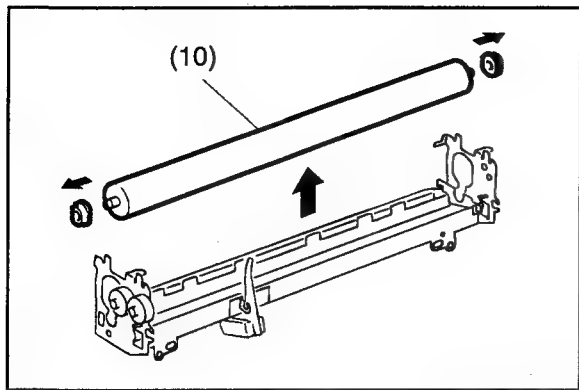
- (6) Remove the **Fuser Roller (414)**.

### **Caution:**

Do not scratch the surface of the Fuser Roller when removing or re-installing it.



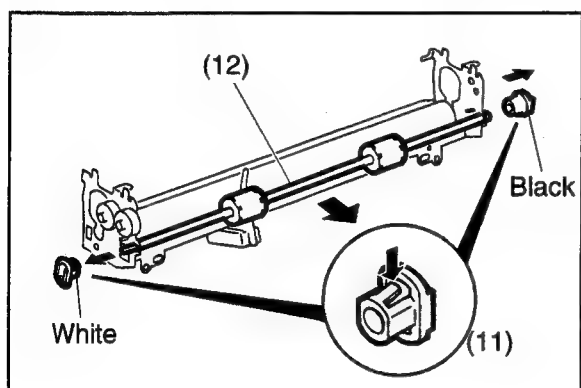
- (7) Remove the **E22 Gear (425)**.
- (8) 1 **Screw (4N)**.
- (9) Remove the **Lower Paper Guide (426)**.



(10) Remove the **Pressure Roller** (409).

**Caution:**

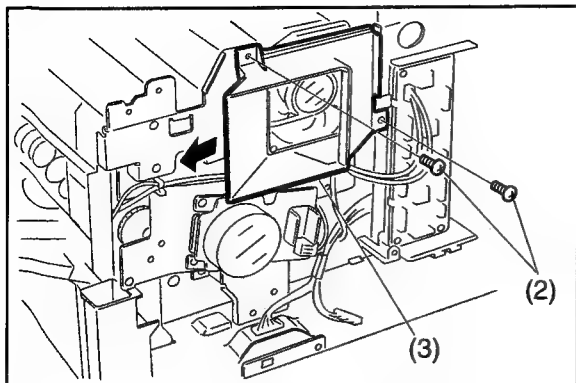
Do not scratch the surface of the Pressure Roller when removing or re-installing it.



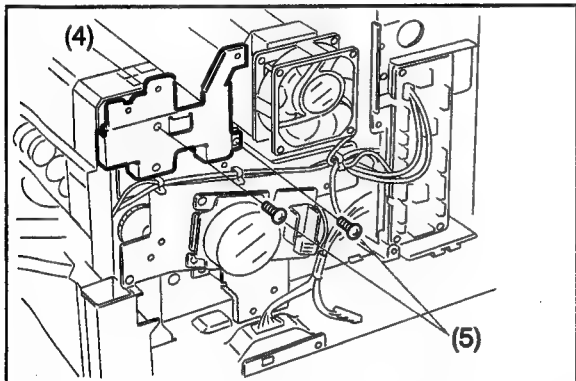
(11) Remove the **Black** and the **White Bushings** (423) (424).

(12) Remove the **Eject Roller** (422).

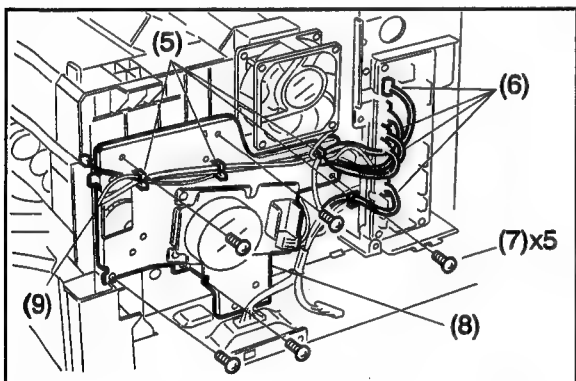
## 2.11 Fan Duct (520), Printer Motor (650), Motor Bracket (641)



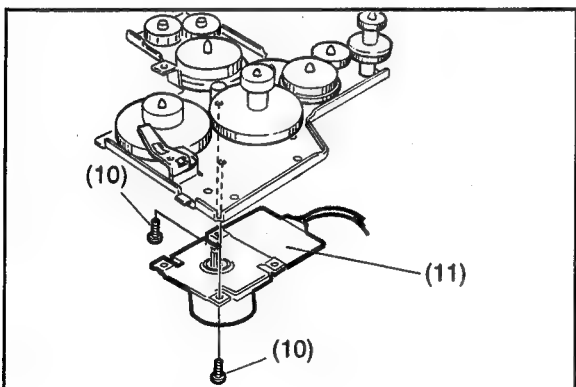
- (1) Remove the the **Front Cover (105)**, **Rear Cover (108)**  
(Refer to 2.3), **Control Panel Unit and FCB Bracket (523)**  
(Refer to 2.5).
- (2) **2 Screws (19)**.
- (3) Remove the **Fan Duct (520)**.



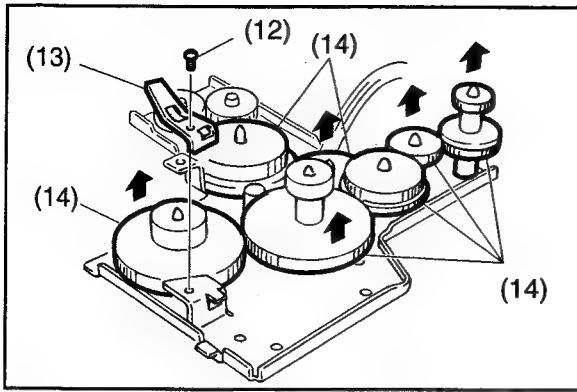
- (4) **2 Screws (19)**.
- (5) Remove the **Fan Duct Bracket (526)**.



- (6) Remove the **Harnesses** from the 4 clamps.
- (7) Disconnect **Connectors CN54, 55, 59, 61, 62 and 63** on  
the **LPC PC Board**.
- (8) **5 Screws (19)**.
- (9) Remove the **Motor Bracket (641)**.



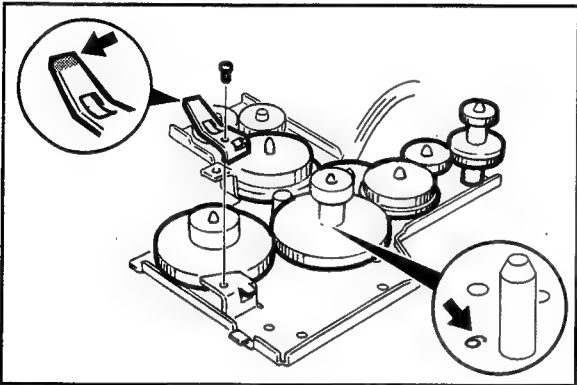
- (10) **2 Screws (19)**.
- (11) Remove the **Printer Motor (650)**.



(12) 1 Screw (19).

(13) Remove the Transfer Ground Spring (649).

(14) 7 Gears.



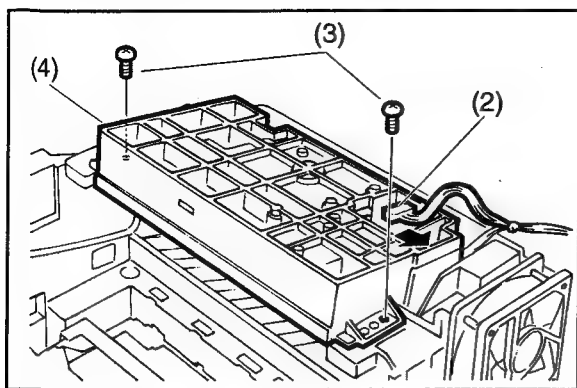
**Caution:**

When re-installing the gear (labeled "6"), be sure to install the washer on the shaft first.

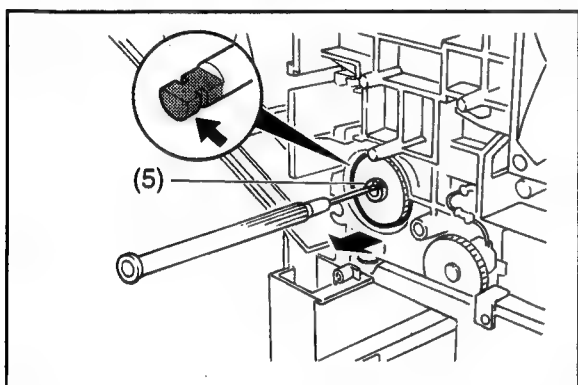
**Note:**

Apply KS-660 Conductive Grease to the Transfer Ground Spring (649) or to the end of the Feed Roller Shaft (618), see page 41.

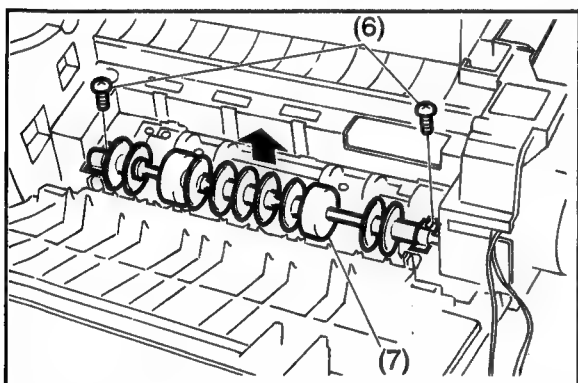
## 2.12 Laser Unit (429), Feed Roller (618), Paper Feed Roller (746), Clutch Gear Assembly (660), Paper Feed Solenoid (744), Fan Unit (622)



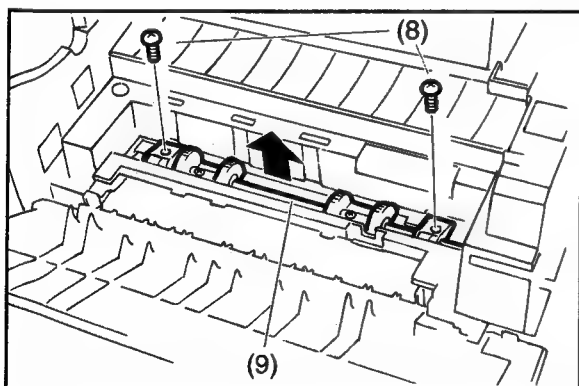
- (1) Remove the the **Front Cover (105)**, **Rear Cover (108)** (Refer to 2.3), **Paper Guide Cover (110)** (Refer to 2.4), **Control Panel Unit** (Refer to 2.5), and **Motor Bracket and Gear Assembly** (Refer to 2.11).
- (2) Disconnect **Connectors**.
- (3) 2 **Screws (19)**.
- (4) Remove the **Laser Unit (429)**.



- (5) Remove the **E34 Drive Gear (620)**.
- Note:**  
When reassembling, apply KS-660 Conductive Grease to the end of the Feed Roller Shaft (618).

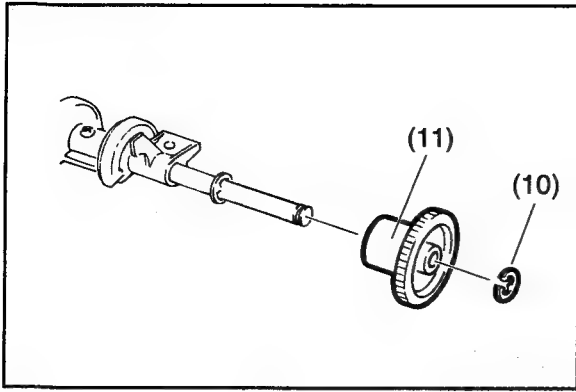


- (6) 2 **Screws (19)**.
- (7) Remove the **Feed Roller (618)**.

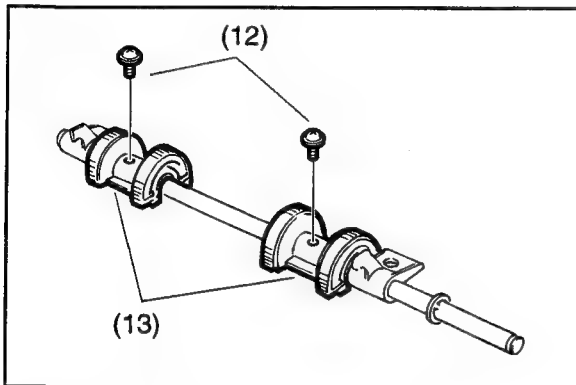


- (8) 2 **Screws (19)**.
- (9) Remove the **Paper Feed Roller Assembly**.





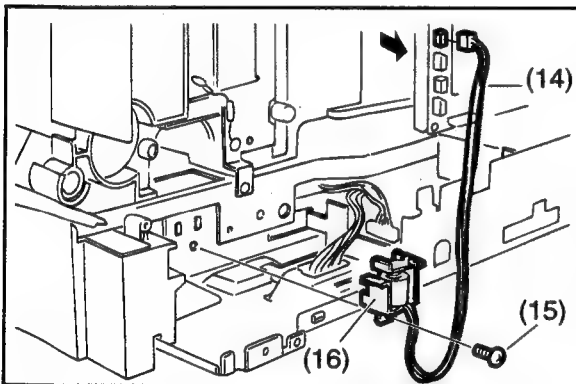
- (10) Remove the **E-Ring** (5Z).
- (11) Remove the **Clutch Gear Assembly** (660).



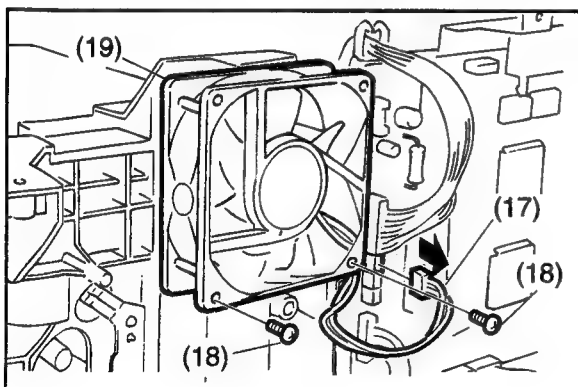
- (12) 2 **Screws** (23).
- (13) Remove the **Paper Feed Rollers** (746).

**Note:**

The Paper Feed Rollers can be accessed from the bottom of the machine after removing the Paper Cassette.

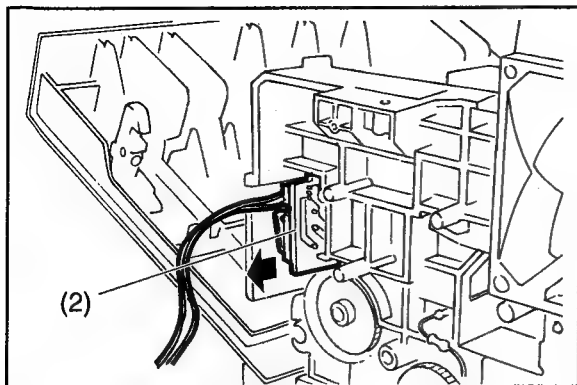


- (14) Disconnect **Connector CN55** on the LPC PC Board.
- (15) 1 **Screw** (19).
- (16) Remove the **Paper Feed Solenoid** (744).

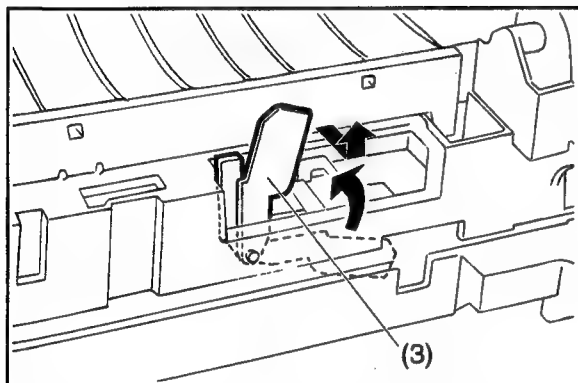


- (17) Disconnect **Connector CN54** on the LPC PC Board.
- (18) 2 **Screws** (1Y).
- (19) Remove the **Fan Unit** (622).

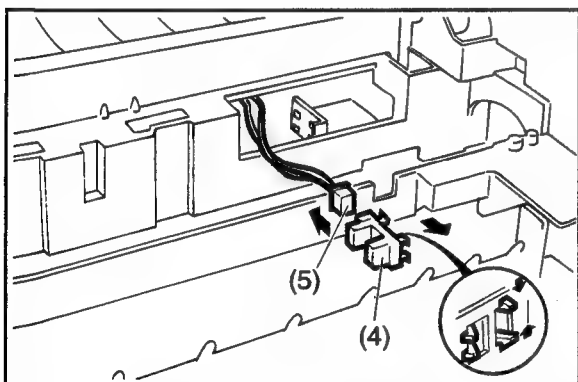
## 2.13 ILS PC Board (621), No Paper Actuator (609), Catch Magnet (730)



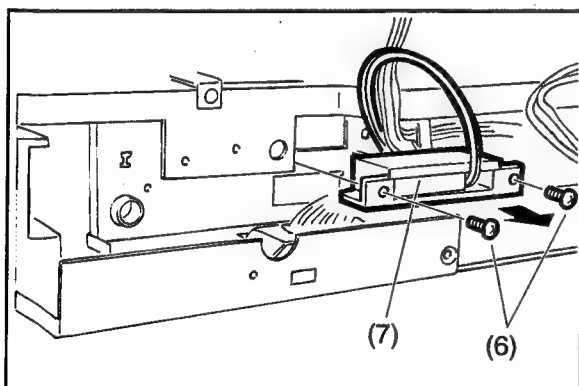
- (1) Remove the the **Front Cover (105)**, **Rear Cover (108)** (Refer to 2.3), **Paper Guide Cover (110)** (Refer to 2.4), **Control Panel Unit** (Refer to 2.5), and **Motor Bracket and Gear Assembly** (Refer to 2.11).
- (2) Remove the **ILS PC Board (621)**.



- (3) Remove the **No Paper Actuator (609)**.

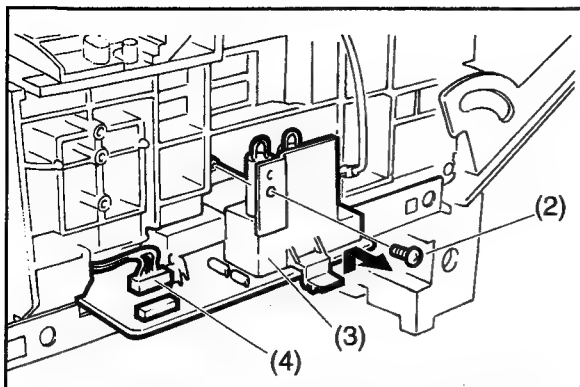


- (4) Remove the **Paper Sensor (610)**.
- (5) Pull out the Paper Sensor from the rear, and disconnect the **Connector**.

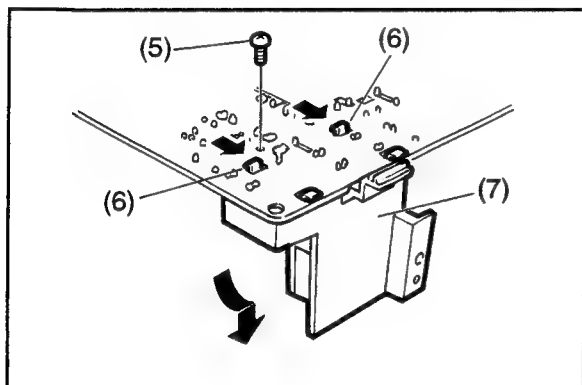


- (6) 2 **Screws (19)**.
- (7) Remove the **Catch Magnet (730)**.

## 2.14 High Voltage Power Supply (HVPS) (506)


















- (1) Remove the **Front Cover** (105) (Refer to 2.3).
- (2) 1 **Screw** (19).
- (3) Pull out the **High Voltage Power Supply (HVPS)** (506).
- (4) Disconnect **Connector CN39** on the High Voltage Power Supply (HVPS).



- (5) 1 **Screw** (19).
- (6) Release 2 **Latch Hooks**.
- (7) Remove the **High Voltage Terminal Cover** (503).

## 2.15 Screw Identification Template

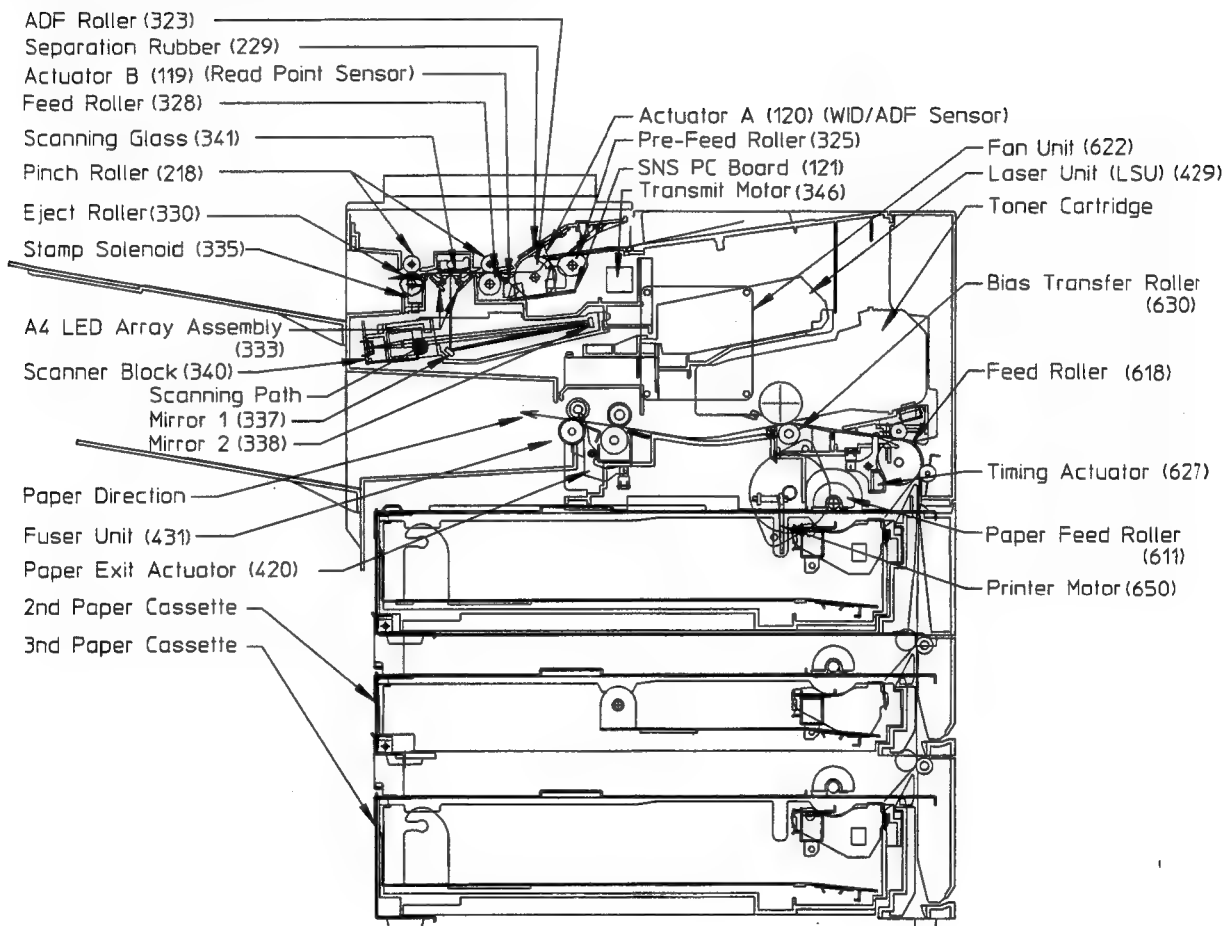
Ref No.	Part No.	Figure	Remark
19	XTB3+8J		Screw
1Q	XYN3+F10		Screw
1Y	XTB3+10J		Screw
23	XYN3+F8		Screw
35	XYN4+F6		Screw
430	DZPF000001		Nut
4N	XSN3+W8FC		Screw
5Y	XUC4		E-Ring
5Z	XUC6		E-Ring
652	DZPK000001		Washer
7B	XTB26+6J		Screw
B1	DZPB000007		Screw
B5	XSB4+10BN		Screw
C8	XTW3+8SFC		Screw
-	DZPA000013		Red Colored Screw

## 3 Maintenance, Adjustments and Check Points

### 3.1 Required Tools

No.	Tool	No.	Tool
1	Soft Cloth	7	Pliers
2	Isopropyl Alcohol	8	Cotton Swab
3	Phillips Screwdriver (#2)	9	Brush
4	Stubby Phillips Screwdriver (#2)	10	KS-660 - Conductive Grease
5	Blade-tip Screwdriver (3/32 in)	11	Molykote EM-50L Grease (Dow Corning)
6	Tweezer		

### 3.2 Periodic Maintenance Points



### 3.3 Periodic Maintenance Check List

The chart outlined below is a general guideline for maintenance. The example list is for an average usage of 50 transmitted and received documents per day. Needless to say, the environmental conditions and actual use will vary these factors.

The chart below is for reference only.

Transmitting mechanism parts	Cleaning		Replacement / Adjustment	
	Cycle	Method	Cycle	Method
ADF Roller (323)	3 months	Page 27	3-5 years(30,000 documents)	Page 30
Separation Rubber (229)	3 months	Page 21	1-3 years(10,000 documents)	Page 21
Pre-Feed Roller (325)	3 months	Page 27	3-5 years(30,000 documents)	Page 30
Mirrors (337 and 338)	12 months	Page 28	-	Page 28
Verification Stamp (336)	-	-	5,000 documents	Page 31
Feed Roller (328)	3 months	Page 27	3-5 years(30,000 documents)	Page 30
ADF Transmit Motor (346)	-	-	5 years	Page 30
Eject Roller (330)	3 months	Page 27	3-5 years(30,000 documents)	Page 30
Latch (302)	12 months	-	-	-
Toner Cartridge	-	-	10,000 pages (See Note)	-
Feed Roller (618)	12 months or 10,000 documents	Alcohol	-	Page 41
Clutch Gear Assembly (660)	12 months or 10,000 documents	Alcohol	-	Page 41
Paper Feed Solenoid (744)	12 months or 10,000 documents	Alcohol	-	Page 41
Bias Transfer Roller (630)	12 months or 10,000 documents	-	30,000 documents	Page 33
Fuser Unit (431)	When replacing Print Cartridge	Cleaning chart	50,000 documents	Page 35
Paper Feed Roller (746)	12 months or 10,000 documents	Alcohol	30,000 documents	Page 41
Fuser Lamp (408)	-	-	50,000 documents or 2-5 years	Page 35
Fuser Roller (414)	12 months or 10,000 documents	Alcohol	-	Page 37
Pressure Roller (409)	12 months or 10,000 documents	Alcohol	-	Page 37
Fan (622)	-	-	3-5 years	Page 41
Printer Motor (650)	-	-	5 years	Page 39

#### Note

The number of pages is based on the ITU-T Image No. 1 test chart at Standard resolution and Multi-Copy mode.

## 3.4 Updating the Firmware

Unlike other machines with removable EPROM (Erasable Programmable ROM), this machine is equipped with an F-ROM (Flash ROM). F-ROM offers the flexibility of quick and easy firmware updates, creation of a master firmware card, backup and restore of firmware and machine parameters.

The following is the basic procedure to update the firmware of the machine. The details are described in the Firmware Update Kit User's Guide. (Order No.: UE-406053 and UE-406055)

### 3.4.1 Creating a Master Firmware Card

#### A. Utilizing the Firmware Update Kit.

1. Install the Firmware Update Kit.
2. Install a Flash Memory Card (2 MB or higher) into the machine.
3. Follow the instructions included in the Firmware Update Kit User's Guide.

#### B. Copy the Firmware from an Existing Machine

1. Turn the Power Switch to the OFF (O) position.
2. Install a Flash Memory Card (2 MB or higher) into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Perform the Service Mode 9-2 (Firmware Backup).
5. The firmware is copied into the Flash Memory Card.
6. After the backup is completed, press "STOP" to return to standby.
7. Turn the Power Switch to the OFF (O) position.
8. Remove the Master Firmware Card that you just created from the machine.
9. Turn the Power Switch to the ON (I) position.
10. Use this Master Firmware Card to update the firmware on other machines.

### 3.4.2 Updating the Firmware using the Master Firmware Card

1. Before starting, print the Fax and Function Parameter Lists.
2. Turn the Power Switch to the OFF (O) position.
3. Install the appropriate Master Firmware Card into the machine.
4. Turn the Power Switch to the ON (I) position.
5. Perform the Service Mode 9-1 (Firmware Update).
6. The firmware is copied into the machine.
7. After the update is completed, the machine reboots itself and returns to standby.
8. Perform the Service Mode 6 (Parameter Initialization).
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card from the machine.
11. Turn the Power Switch to the ON (I) position.
12. Reprogram the Fax and/or Function Parameters according to the lists printed in Step 1 above if the settings are other than factory default.

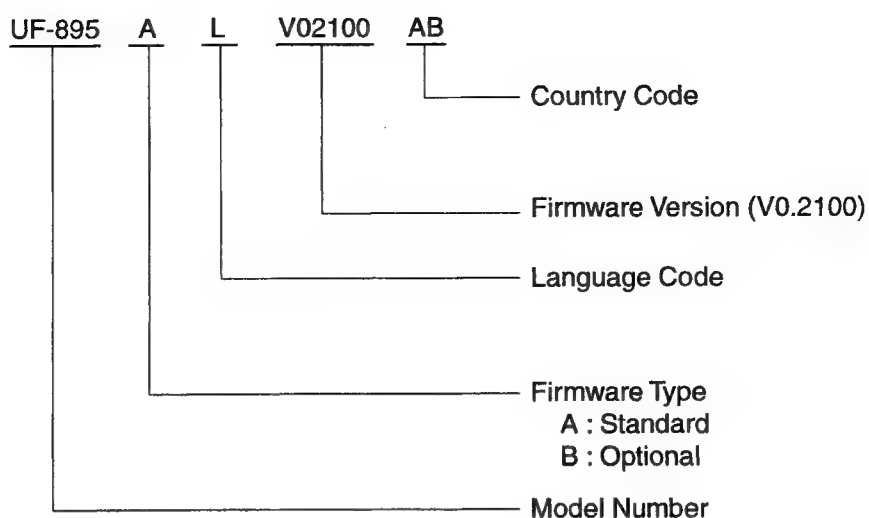
### 3.4.3 Erasing the Master Firmware Card

1. Turn the Power Switch to the OFF (O) position.
2. Install the Master Firmware Card into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Perform the Service Mode 9-5 (PC → Flash Card).
5. The firmware is erased from the card and the following message is shown on the display:

READY TO PROGRAM  
PRESS SET TO START

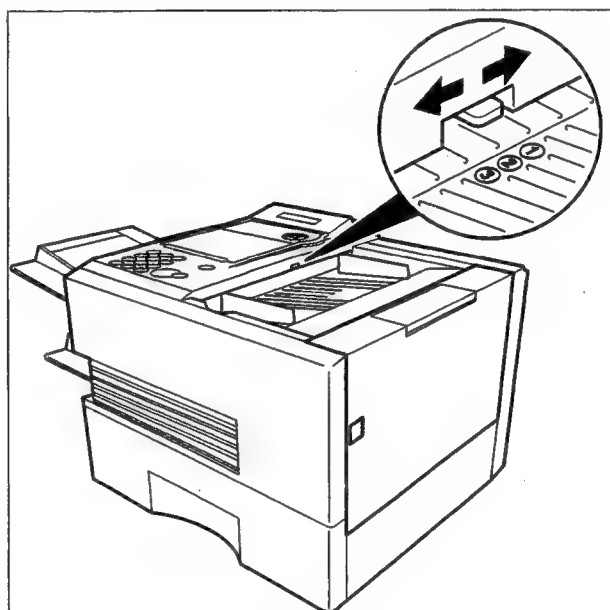
6. Press "STOP" twice to return to standby.
7. Turn the Power Switch to the OFF (O) position.
8. Remove the blank Flash Memory Card from the machine.
9. Turn the Power Switch to the ON (I) position.

### 3.4.4 Firmware Version



### 3.5 ADF Pressure

- When documents multi-feed, move the pressure Adjusting Lever to the 3 (H) position.
- When documents do not feed properly, move the Pressure Adjusting Lever to the 1 (L) position.

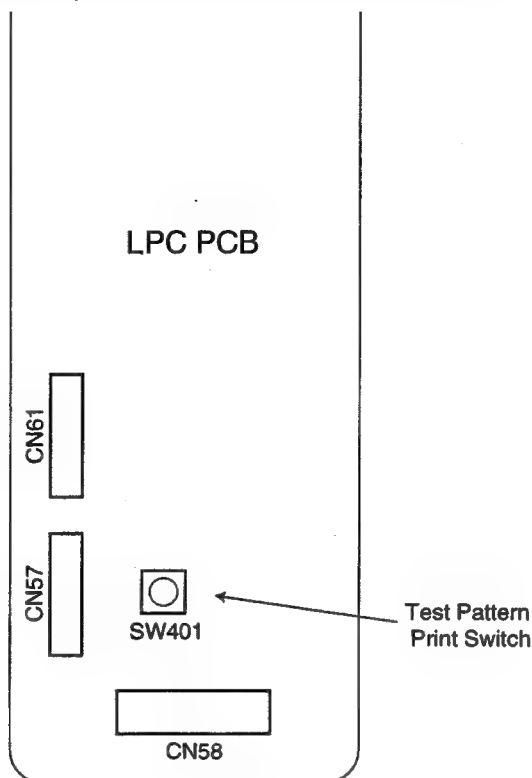


Position	Pressure of separator	Situation
1 (L)	Low	When the documents misfeed
2 (M)	Medium	Normal Position (Factory set position)
3 (H)	High	When the documents multi-feed



### 3.6 Printer Unit Test

1. You can check the printer with the FCB PCB disconnected from the unit (Sections 2.5).
2. Press the Test Pattern Print Switch (SW401) on the LPC PCB as shown below.

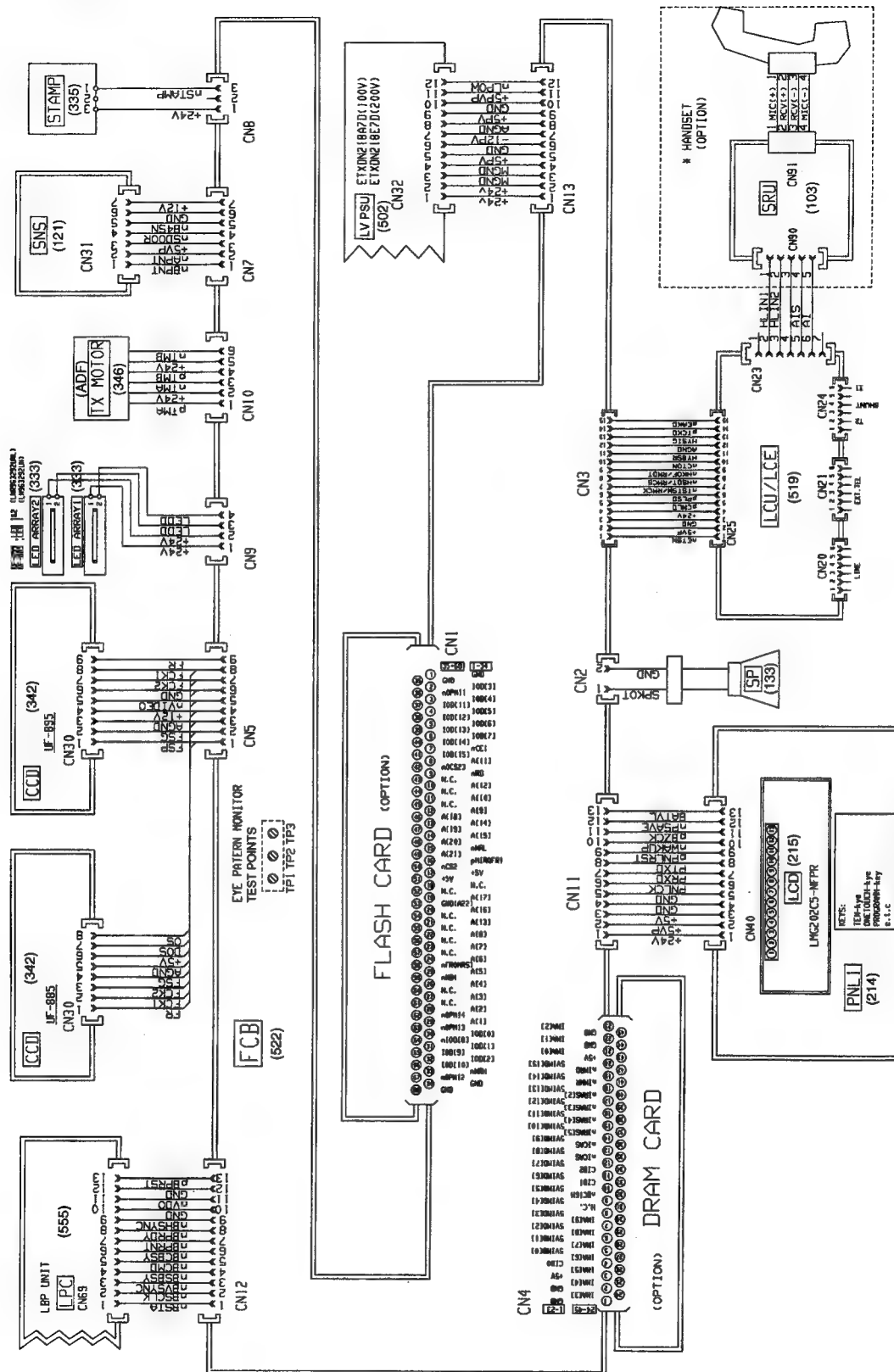


	Pattern	Selection method	Stop method
Pattern 0 (400dpi)	1-dot Horizontal line	Switch ON for less than 2 seconds	Switch ON again
Pattern 1 (600dpi)	1-dot Horizontal line	Switch ON for 2 seconds or more	Switch ON again
--	Blank page	Switch ON for 2 seconds or more while printing out a Pattern 1.	Switch ON again

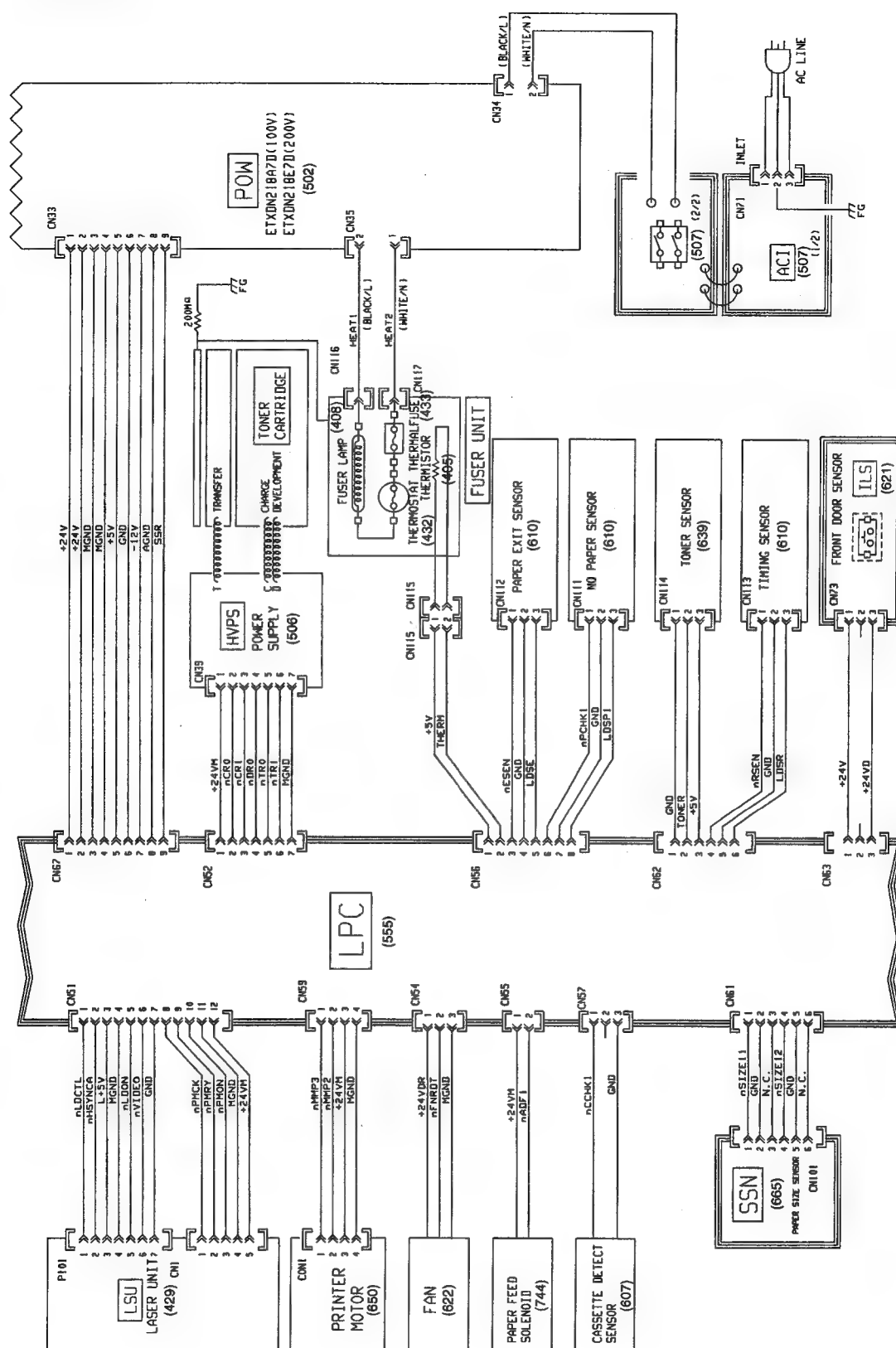
3. The Test Pattern prints. Check the print Quality.

## 3.7 General Circuit Diagram

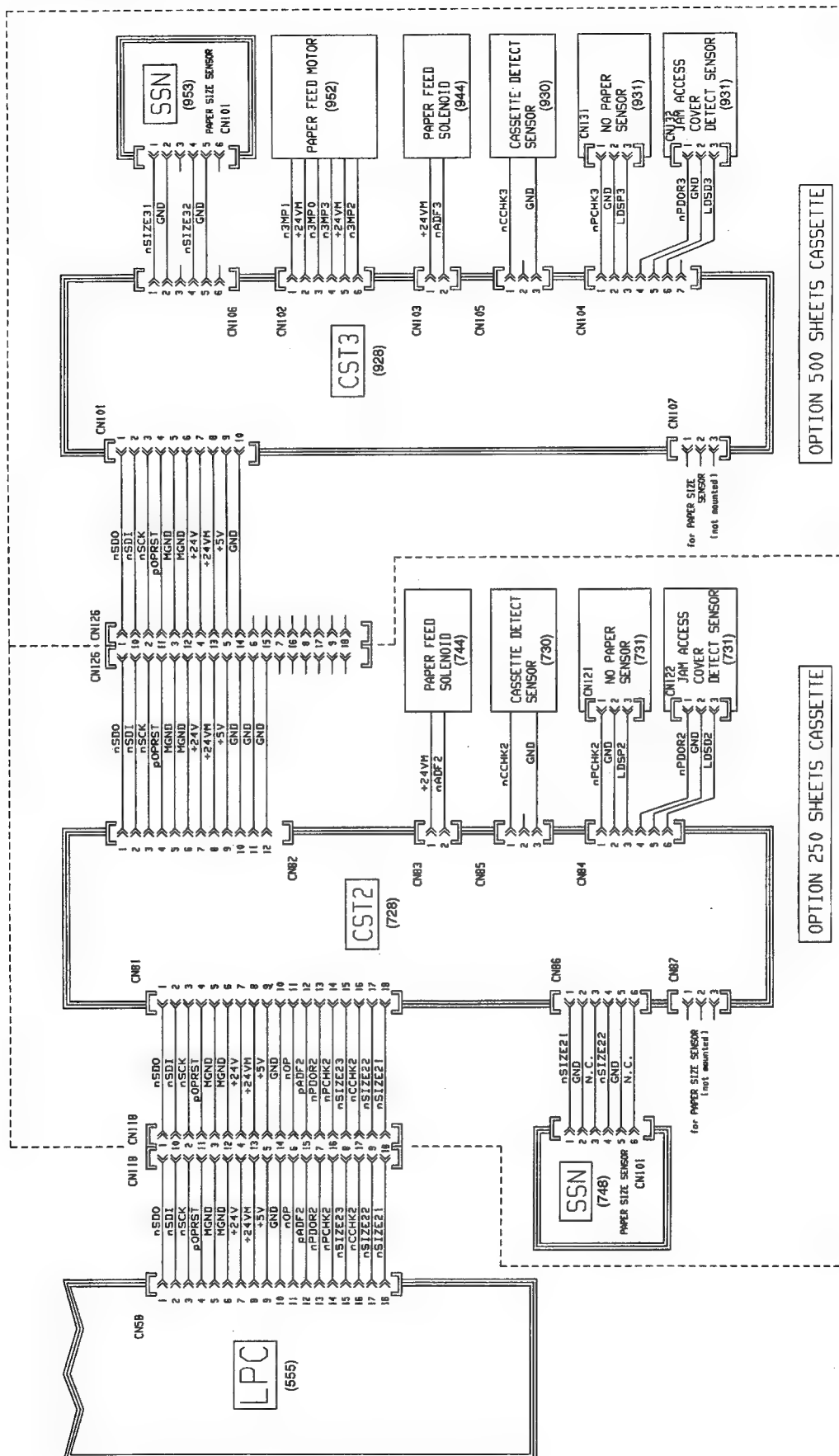
### 3.7.1 Fax Circuit



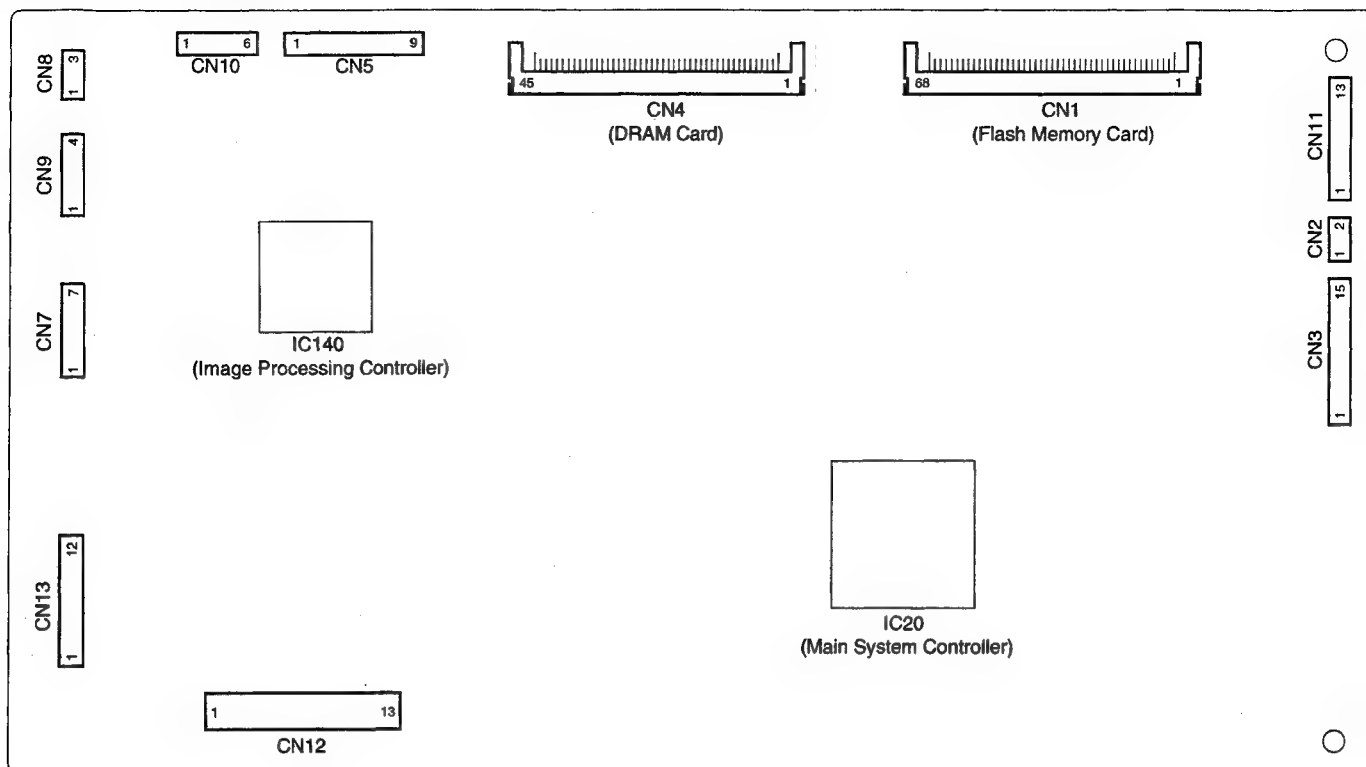
### 3.7.2 Printer Circuit





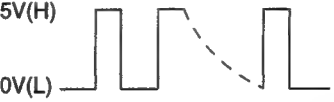




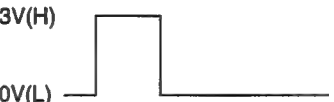

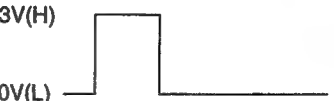


### 3.7.3 Option Cassette Circuit

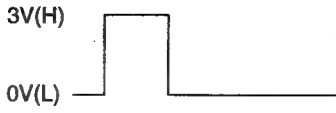

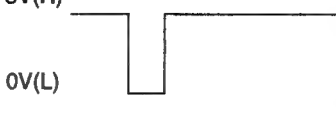


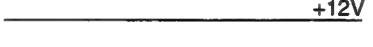
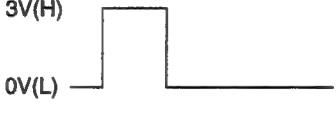







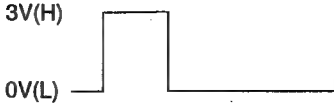

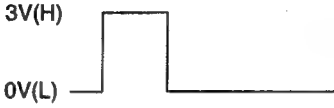
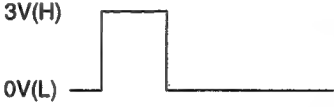
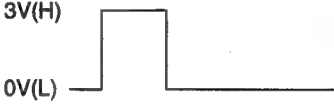
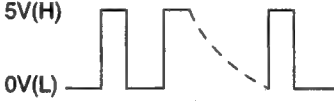


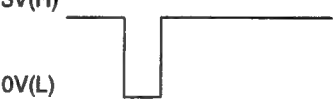
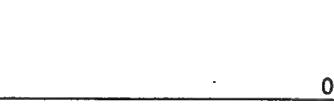
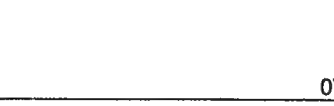
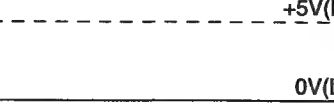
### 3.8 FCB PCB



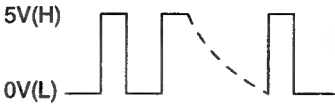
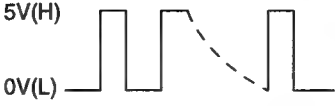
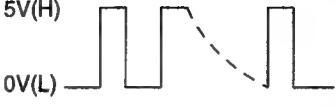



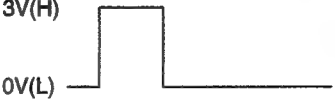
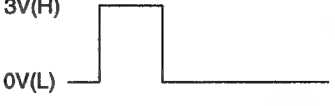

**CN1**


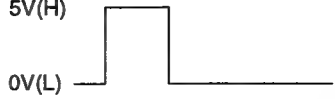




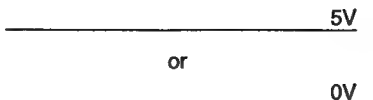
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-1	GND	Flash Memory Card	 0V	Ground
CN1-2	IOD[3]	Flash Memory Card		Data Signal
CN1-3	IOD[4]	Flash Memory Card		Data Signal
CN1-4	IOD[5]	Flash Memory Card		Data Signal
CN1-5	IOD[6]	Flash Memory Card		Data Signal
CN1-6	IOD[7]	Flash Memory Card		Data Signal
CN1-7	+5V(*CE1)	Flash Memory Card	 +5V	+5 VDC Power Supply
CN1-8	A[11]	Flash Memory Card		Address Signal
CN1-9	nRD	Flash Memory Card		Low Enable
CN1-10	A[12]	Flash Memory Card		Address Signal
CN1-11	A[10]	Flash Memory Card		Address Signal
CN1-12	A[9]	Flash Memory Card		Address Signal

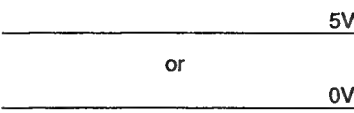

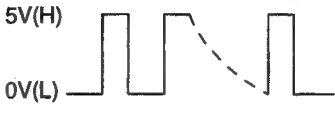
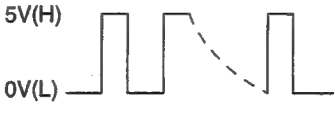
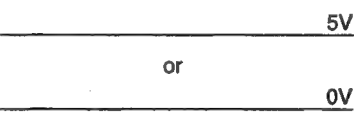

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-13	A[14]	Flash Memory Card		Address Signal
CN1-14	A[15]	Flash Memory Card		Address Signal
CN1-15	nWRL	Flash Memory Card		Low Enable
CN1-16	pMIRQFR1	Flash Memory Card		High Enable
CN1-17	+5V	Flash Memory Card		+5 VDC Power Supply
CN1-18	+12V	Flash Memory Card		+12 VDC Power Supply
CN1-19	A[17]	Flash Memory Card		Address Signal
CN1-20	A[16]	Flash Memory Card		Address Signal
CN1-21	A[13]	Flash Memory Card		Address Signal
CN1-22	A[8]	Flash Memory Card		Address Signal
CN1-23	A[7]	Flash Memory Card		Address Signal
CN1-24	A[6]	Flash Memory Card		Address Signal

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-25	A[5]	Flash Memory Card		Address Signal
CN1-26	A[4]	Flash Memory Card		Address Signal
CN1-27	A[3]	Flash Memory Card		Address Signal
CN1-28	A[2]	Flash Memory Card		Address Signal
CN1-29	A[1]	Flash Memory Card		Address Signal
CN1-30	IOD[0]	Flash Memory Card		Data Signal
CN1-31	IOD[1]	Flash Memory Card		Data Signal
CN1-32	IOD[2]	Flash Memory Card		Data Signal
CN1-33	nWRH	Flash Memory Card		Low Enable
CN1-34	GND	Flash Memory Card		Ground
CN1-35	GND	Flash Memory Card		Ground
CN1-36	nOPM11	Flash Memory Card		H: Card Not Installed L: Card Installed





Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-37	IOD[11]	Flash Memory Card		Data Signal
CN1-38	IOD[12]	Flash Memory Card		Data Signal
CN1-39	IOD[13]	Flash Memory Card		Data Signal
CN1-40	IOD[14]	Flash Memory Card		Data Signal
CN1-41	IOD[15]	Flash Memory Card		Data Signal
CN1-42	nCS23	Flash Memory Card		Low Enable
CN1-43	NC			Not Used
CN1-44	RSV	Flash Memory Card		Not Used
CN1-45	RSV	Flash Memory Card		Not Used
CN1-46	A[18]	Flash Memory Card		Address Signal
CN1-47	A[19]	Flash Memory Card		Address Signal
CN1-48	A[20]	Flash Memory Card		Address Signal




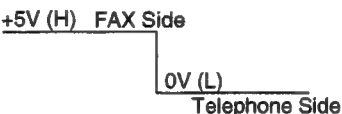
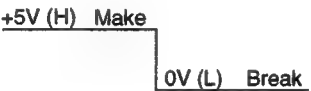
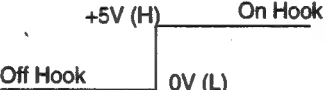
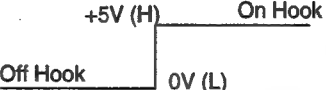


Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-49	A[21]	Flash Memory Card		Address Signal
CN1-50	nCS2	Flash Memory Card		Address Signal
CN1-51	+5V	Flash Memory Card		+5 VDC Power Supply
CN1-52	+12V	Flash Memory Card		+12 VDC Power Supply
CN1-53	GND(A22)	Flash Memory Card		Ground
CN1-54 ~ CN1-56	NC			Not Used
CN1-57	RSV	Flash Memory Card		Not Used
CN1-58	nFROMRST	Flash Memory Card		Low Enable
CN1-59	NC			Not Used
CN1-60	RSV	Flash Memory Card		Not Used
CN1-61	NC			Not Used
CN1-62	nOPM14	Flash Memory Card		Flash Memory Card ID

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-63	nOPM13	Flash Memory Card		Flash Memory Card ID
CN1-64	nIOD[8]	Flash Memory Card		Data Signal
CN1-65	IOD[9]	Flash Memory Card		Data Signal
CN1-66	IOD[10]	Flash Memory Card		Data Signal
CN1-67	nOPM12	Flash Memory Card		Flash Memory Card ID
CN1-68	GND	Flash Memory Card		Ground

## CN2




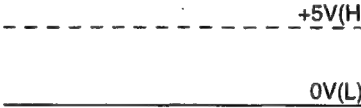
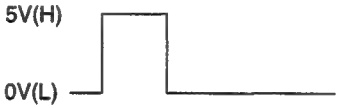
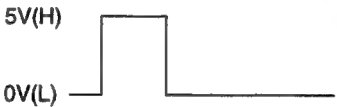
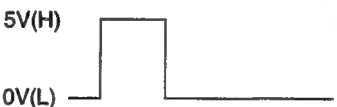
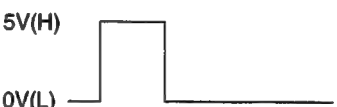




Pin No.	Signal Name	Destination	Signal Waveform	Function
CN2-1	SPKOT	Speaker		Line Signal, Key Tone, Ringer
CN2-2	GND	Speaker		Ground


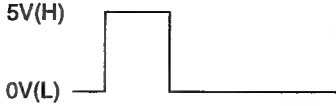
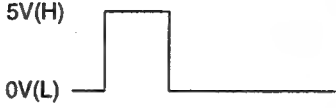
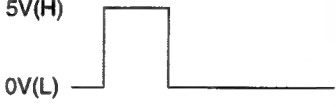
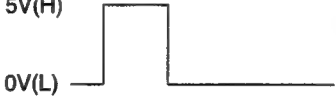
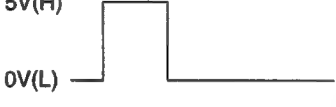





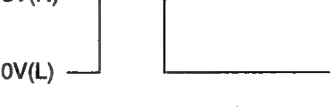
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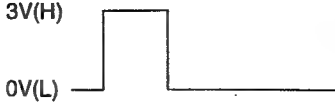
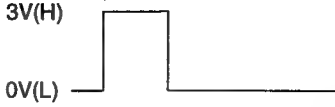
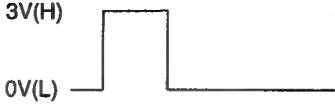
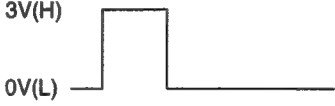
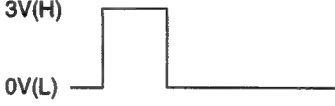
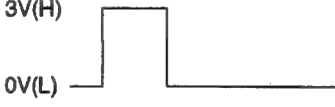
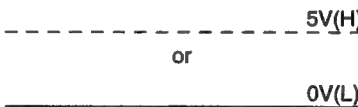
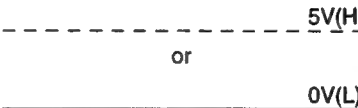
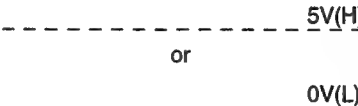
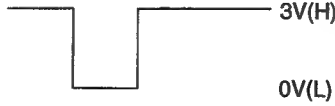
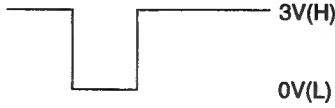
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-1	nETSW	LCU/LCE PCB CN25-1		Not Used
CN3-2	+5VP	LCU/LCE PCB CN25-2		+5 VDC Power Supply
CN3-3	GND	LCU/LCE PCB CN25-3		Ground
CN3-4	+24V	LCU/LCE PCB CN25-4		+24 VDC Power Supply
CN3-5	pCMLD	LCU/LCE PCB CN25-5		Line Switching Relay Drive
CN3-6	pPLSD	LCU/LCE PCB CN25-6		Pulse Dial Relay Drive
CN3-7	nTSTSW/RMCK	LCU/LCE PCB CN25-7		Not Used
CN3-8	nHSDT/RMCS	LCU/LCE PCB CN25-8		Handset Off-Hook Detection Signal
CN3-9	nHKOF/RMDT	LCU/LCE PCB CN25-9		External Phone Off-Hook Detection Signal (Phone Line must be connected.)
CN3-10	nCTON	LCU/LCE PCB CN25-10		Ring Detection Signal
CN3-11	HYBSR	LCU/LCE PCB CN25-11		Line Transformer Input Signal
CN3-12	GND	LCU/LCE PCB CN25-12		Ground

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-13	HYSIG	LCU/LCE PCB CN25-13		Not Used
CN3-14	pTCKD	LCU/LCE PCB CN25-14		Not Used
CN3-15	pEAKD	LCU/LCE PCB CN25-15		Not Used

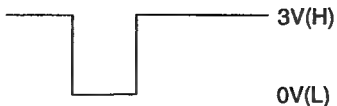
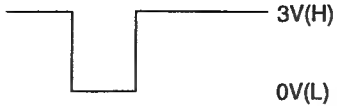
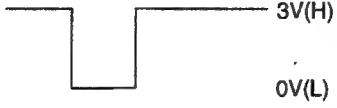
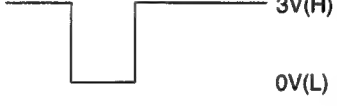





**CN4**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN4-1	GND	DRAM Card	 0V	Ground
CN4-2	GND	DRAM Card	 0V	Ground
CN4-3	+5V	DRAM Card	 +5V	+5 VDC Power Supply
CN4-4	CID0	DRAM Card	 +5V(H) 0V(L)	H: Card Not Installed L: Card Installed
CN4-5	5VIMD[0]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-6	5VIMD[1]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-7	5VIMD[2]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-8	5VIMD[3]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-9	5VIMD[4]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-10	5VIMD[5]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-11	5VIMD[6]	DRAM Card	 5V(H) 0V(L)	Data Signal
CN4-12	5VIMD[7]	DRAM Card	 5V(H) 0V(L)	Data Signal

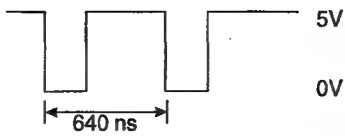
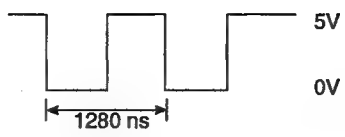
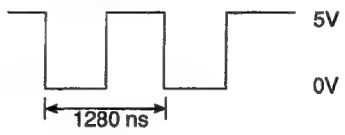
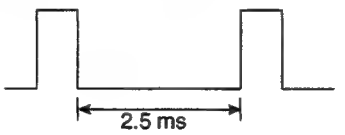

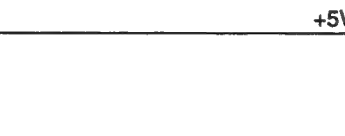

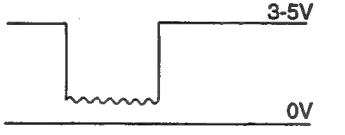
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN4-13	5VIMD[8]	DRAM Card		Data Signal
CN4-14	5VIMD[9]	DRAM Card		Data Signal
CN4-15	5VIMD[10]	DRAM Card		Data Signal
CN4-16	5VIMD[11]	DRAM Card		Data Signal
CN4-17	5VIMD[12]	DRAM Card		Data Signal
CN4-18	5VIMD[13]	DRAM Card		Data Signal
CN4-19	5VIMD[14]	DRAM Card		Data Signal
CN4-20	5VIMD[15]	DRAM Card		Data Signal
CN4-21	IMA[0]	DRAM Card		Address Signal
CN4-22	IMA[1]	DRAM Card		Address Signal
CN4-23	IMA[2]	DRAM Card		Address Signal
CN4-24	IMA[3]	DRAM Card		Address Signal

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN4-25	IMA[4]	DRAM Card		Address Signal
CN4-26	IMA[5]	DRAM Card		Address Signal
CN4-27	IMA[6]	DRAM Card		Address Signal
CN4-28	IMA[7]	DRAM Card		Address Signal
CN4-29	IMA[8]	DRAM Card		Address Signal
CN4-30	IMA[9]	DRAM Card		Address Signal
CN4-31	NC			Not Used
CN4-32	nDC16M	DRAM Card		DRAM Card ID
CN4-33	CID1	DRAM Card		DRAM Card ID
CN4-34	CID2	DRAM Card		DRAM Card ID
CN4-35	nICAS	DRAM Card		Low Enable
CN4-36	nICAS	DRAM Card		Low Enable

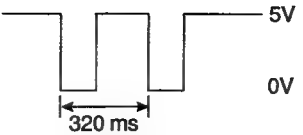
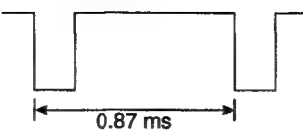


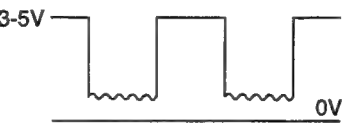

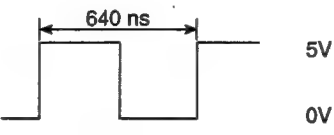
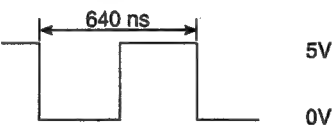
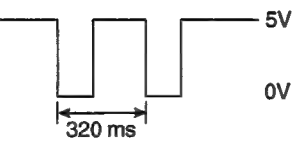


Pin No.	Signal Name	Destination	Signal Waveform	Function
CN4-37	nIRAS[5]	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-38	nIRAS[4]	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-39	nIRAS[3]	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-40	nIRAS[2]	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-41	nIMWR	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-42	nIMRD	DRAM Card	 <p>3V(H) 0V(L)</p>	Low Enable
CN4-43	+5V	DRAM Card	 <p>+5V</p>	+5 VDC Power Supply
CN4-44	GND	DRAM Card	 <p>0V</p>	Ground
CN4-45	GND	DRAM Card	 <p>0V</p>	Ground

**CN5 (UF-885)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN5-1	FR	CCD PCB CN30-1		Reset Signal
CN5-2	FCK1	CCD PCB CN30-2		Shift Register Clock 1
CN5-3	FCK2	CCD PCB CN30-3		Shift Register Clock 2
CN5-4	FSG	CCD PCB CN30-4		Data Transfer Enable Signal
CN5-5	AGND	CCD PCB CN30-5		Ground
CN5-6	+5V	CCD PCB CN30-6		+5 VDC Power Supply
CN5-7	DOS	CCD PCB CN30-7		Compensation Signal (Analog Signal)
CN5-8	OS	CCD PCB CN30-8		Video Signal

**CN5 (UF-895)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN5-1	FSR	CCD PCB CN30-1		Sampling Clock
CN5-2	FSG	CCD PCB CN30-2		Data Transfer Enable Signal
CN5-3	AGND	CCD PCB CN30-3		Ground
CN5-4	+12V	CCD PCB CN30-4		+12 VDC Power Supply
CN5-5	nVIDEO	CCD PCB CN30-5		Video Signal
CN5-6	GND	CCD PCB CN30-6		Ground
CN5-7	FCK2	CCD PCB CN30-7		Shift Register Clock 2
CN5-8	FCK1	CCD PCB CN30-8		Shift Register Clock 1
CN5-9	FR	CCD PCB CN30-9		Reset Signal

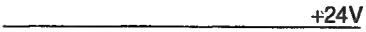


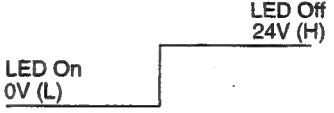
**CN7**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN7-1	nBPNT	SNS PCB CN31-1		Read Point Detection
CN7-2	nAPNT	SNS PCB CN31-2		ADF Document Detection
CN7-3	+5VP	SNS PCB CN31-3		+5 VDC Power Supply (Connector Unplugged) +1.2 VDC (Connector Plugged In)
CN7-4	nSDOOR	SNS PCB CN31-4		Tx Door Detection
CN7-5	nB4SN	SNS PCB CN31-5		B4 Width Document Detection
CN7-6	GND	SNS PCB CN31-6		Ground
CN7-7	+12V	SNS PCB CN31-7		+12 VDC Power Supply (Connector Unplugged) +3.5 VDC (Connector Plugged In)






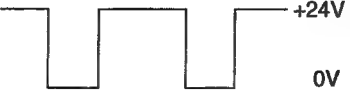
**CN8**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN8-1	+24V	Stamp		+24 VDC Power Supply
CN8-2	NC			Not Used
CN8-3	nSTAMP	Stamp		Stamp Driver Signal


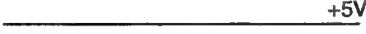


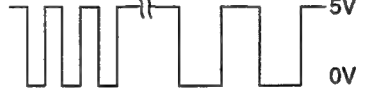

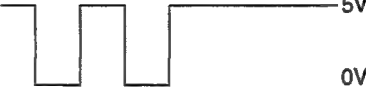


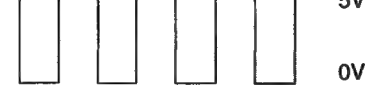
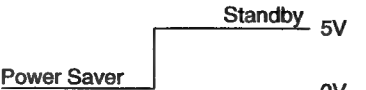
**CN9**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN9-1	+24V	LED Array 1-1		+24 VDC Power Supply
CN9-2	+24V (For UF-895 only)	LED Array 2-1		+24 VDC Power Supply
CN9-3	LEDD (For UF-895 only)	LED Array 2-2		LED Lamp +24 VDC (Connector Unplugged) +12.5 VDC (Connector Plugged In)
CN9-4	LEDD	LED Array 1-2		LED Lamp +24 VDC (Connector Unplugged) +12.5 VDC (Connector Plugged In)

**CN10**


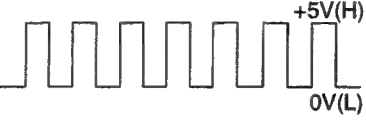
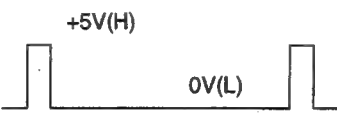

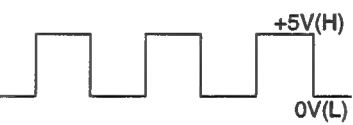
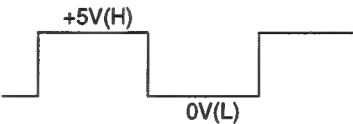
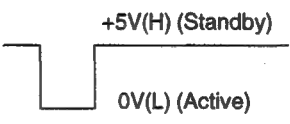

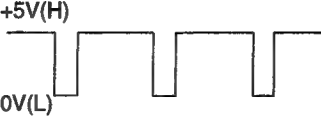

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN10-1	pTMA	Transmit Motor		Stepping Signal
CN10-2	+24V	Transmit Motor		+24 VDC Power Supply
CN10-3	nTMA	Transmit Motor		Stepping Signal
CN10-4	pTMB	Transmit Motor		Stepping Signal
CN10-5	+24V	Transmit Motor		+24 VDC Power Supply
CN10-6	nTMB	Transmit Motor		Stepping Signal

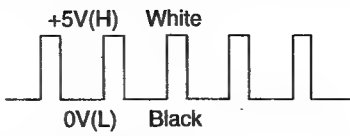

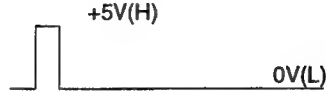
**CN11**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN11-1	+24V	PNL PCB CN40-1		Not Used
CN11-2	+5VP	PNL PCB CN40-2		+5 VDC Power Supply
CN11-3	+5V	PNL PCB CN40-3		+5 VDC Power Supply
CN11-4	GND	PNL PCB CN40-4		Ground
CN11-5	GND	PNL PCB CN40-5		Ground
CN11-6	pPNLCK	PNL PCB CN40-6		Serial Data Transfer Clock
CN11-7	PNLRXD	PNL PCB CN40-7		Reception Data
CN11-8	PNLTXD	PNL PCB CN40-8		Transmission Data
CN11-9	pPNLRST	PNL PCB CN40-9		Panel Reset Signal (Reset by 0V)
CN11-10	nWAKUP	PNL PCB CN40-10		Power Saver Reset Signal
CN11-11	pBZCK	PNL PCB CN40-11		Buzzer Clock
CN11-12	nPSAVE	PNL PCB CN40-12		Power Saver Enable

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN11-13	BATVL	PNL PCB CN40-13	0V ~ +3V	Battery Voltage












## CN12

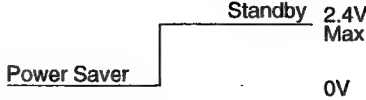
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN12-1	nBSTA	LPC PCB CN69-1		Serial Interface Data Signal
CN12-2	nBSCLK	LPC PCB CN69-2		Serial Interface Synchronization Clock
CN12-3	nBVSYNC	LPC PCB CN69-3		V-SYNC for Video Signal
CN12-4	nBSBSY	LPC PCB CN69-4		Serial Interface Enable Signal
CN12-5	nBCMD	LPC PCB CN69-5		Serial Interface Command Data Signal
CN12-6	nBCBSY	LPC PCB CN69-6		Serial Interface Enable Signal
CN12-7	nBPRNT	LPC PCB CN69-7		Print Request Signal
CN12-8	nBPRDY	LPC PCB CN69-8		Printer Ready Signal
CN12-9	nBHSYNC	LPC PCB CN69-9		H-SYNC for Video Signal
CN12-10	GND	LPC PCB CN69-10		Ground

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN12-11	nVDO	LPC PCB CN69-11		Laser Drive Print Data Signal
CN12-12	GND	LPC PCB CN69-12		Ground
CN12-13	pBPRST	LPC PCB CN69-13		Printer External Reset Signal

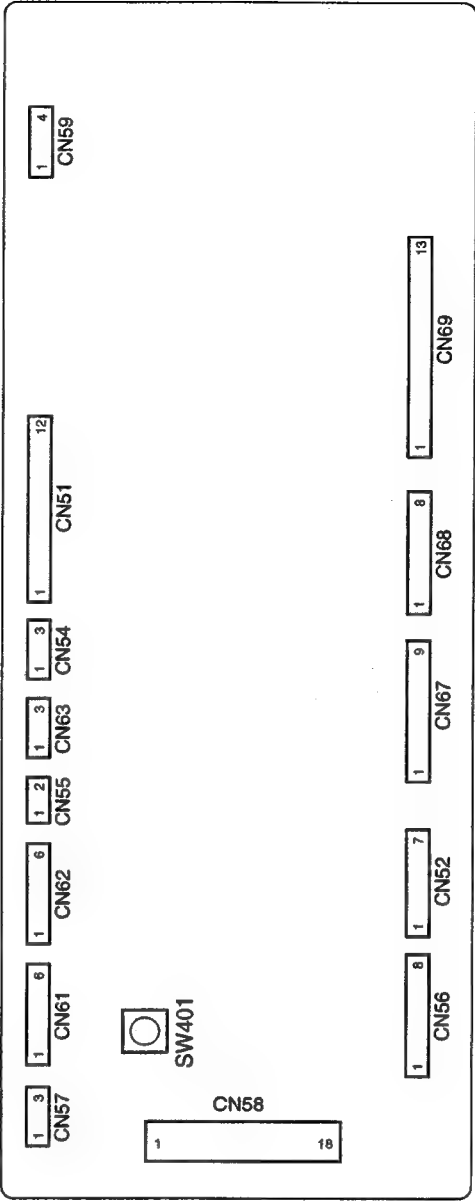


**CN13**










Pin No.	Signal Name	Destination	Signal Waveform	Function
CN13-1	+24V	POW PCB CN32-1		+24 VDC Power Supply
CN13-2	+24V	POW PCB CN32-2		+24 VDC Power Supply
CN13-3	MGND	POW PCB CN32-3		Ground
CN13-4	MGND	POW PCB CN32-4		Ground
CN13-5	+5V	POW PCB CN32-5		+5 VDC Power Supply
CN13-6	GND	POW PCB CN32-6		Ground
CN13-7	-12V	POW PCB CN32-7		-12 VDC Power Supply
CN13-8	AGND	POW PCB CN32-8		Ground
CN13-9	+5V	POW PCB CN32-9		+5 VDC Power Supply
CN13-10	GND	POW PCB CN32-10		Ground
CN13-11	+5VP	POW PCB CN32-11		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN13-12	nLPOW	POW PCB CN32-12	 <p>Standby 2.4V Max Power Saver 0V</p>	Power Saver Enable


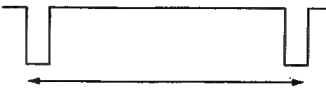
3.9 LPC PCB

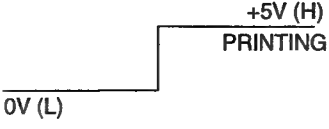

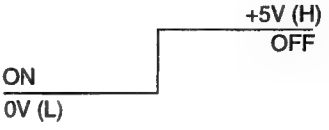


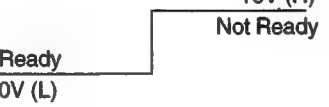
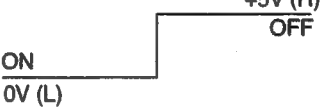



**CN67**







Pin No.	Signal Name	Destination	Signal Waveform	Function
CN67-1	+24V	POW PCB CN33-1		+24 VDC Power Supply
CN67-2	+24V	POW PCB CN33-2		+24 VDC Power Supply
CN67-3	MGND	POW PCB CN33-3		Ground
CN67-4	MGND	POW PCB CN33-4		Ground
CN67-5	+5V	POW PCB CN33-5		+5 VDC Power Supply
CN67-6	GND	POW PCB CN33-6		Ground
CN67-7	-12V	POW PCB CN33-7		-12V VDC Power Supply
CN67-8	AGND	POW PCB CN33-8		Ground
CN67-9	SSR	POW PCB CN33-9		Fuser Lamp Control Signal

**CN51**


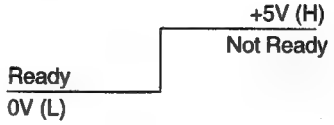

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN51-1	nLDCTL	LSU P101-1		Laser Power Sample/Hold Timing Signal 1 ms (16 dot) 0.652 ms (600 dpi)
CN51-2	nHSYNC	LSU P101-2		H-SYNC Video Signal 1 ms (16 dot) 0.652 ms (600 dpi)

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN51-3	L+5V	LSU P101-3		+5V Power Supply for Laser Drive Circuit
CN51-4	GND	LSU P101-4		Ground
CN51-5	nLDON	LSU P101-5		Laser Control Signal
CN51-6	nVIDEO	LSU P101-6		Video Data L=Black, H=White
CN51-7	GND	LSU P101-7		Ground
CN51-8	nPMCK	LSU CN1-1		Polygon Motor Clock 3.3 KHz (16 dot) 5.1 KHz (600 dpi)
CN51-9	nPMRY	LSU CN1-2		Polygon Motor Ready Signal
CN51-10	nPMON	LSU CN1-3		Polygon Motor Control Signal
CN51-11	MGND	LSU CN1-4		Frame Ground
CN51-12	+24VM	LSU CN1-5		+24 VDC Power Supply

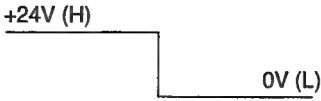
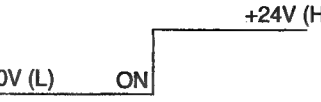
**CN52**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN52-1	+24VM	HVPS CN39-1		+24 VDC Power Supply
CN52-2	nCR0	HVPS CN39-2		Charge Control AC Output
CN52-3	nCR1	HVPS CN39-3		Charge Control DC Output
CN52-4	nDR0	HVPS CN39-4		Development Control AC+DC Output
CN52-5	nTR0	LSU P101-5		Transfer Control Cleaning Output
CN52-6	nTR1	LSU P101-6		Transfer Control Transfer Output
CN52-7	MGND	LSU P101-7		Ground




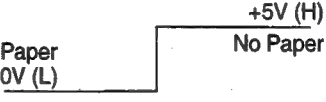

**CN54**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN54-1	+24VDR	Fan		Fan Control Signal
CN54-2	nFNRDT	Fan		Fan Ready Signal
CN54-3	MGND	Fan		Ground



**CN55**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN55-1	+24VM	Paper Feed Solenoid		+24 VDC Power Supply
CN55-2	nADF1	Paper Feed Solenoid		Paper Feed Roller Solenoid Control Signal




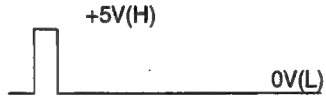




**CN56**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN56-1	+5V	Thermistor CN115-1		+5 VDC Power Supply
CN56-2	THERM	Thermistor CN115-2	Analog Signal	Fuser Thermistor Voltage Level signal
CN56-3	nESEN	Paper Exit Sensor CN112-1		Paper Exit Sensor Detection Signal
CN56-4	GND	Paper Exit Sensor CN112-2		Ground
CN56-5	LDSE	Paper Exit Sensor CN112-3	Approx. +2 VDC	Paper Exit Sensor LED Drive Current
CN56-6	nPCHK1	No Paper Sensor CN111-1		No Paper Detection Signal
CN56-7	GND	No Paper Sensor CN111-2		Ground
CN56-8	LDSP1	No Paper Sensor CN111-3	Approx. +2 VDC	No Paper Sensor LED Drive Current

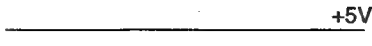
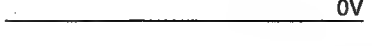
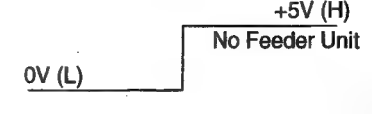
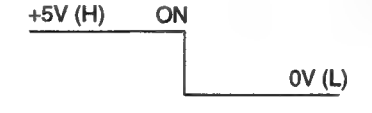
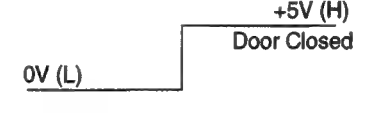
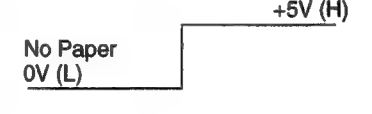
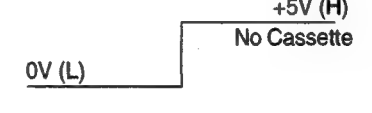
# CN57

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN57-1	nCCHK1	Cassette Detect Sensor	 <p>+5V (H) No Cassette 0V (L)</p>	No Cassette Detection Signal
CN57-2	NC			Not connected
CN57-3	GND	Cassette Detect Sensor	 <p>0V</p>	Ground

# CN58

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN58-1	nSDO	CTS2 CN81-1	 <p>+5V(H) 0V(L)</p>	500 Sheets Cassette Interface TX DATA
CN58-2	nSDI	CTS2 CN81-2	 <p>+5V(H) 0V(L)</p>	500 Sheets Cassette Interface RX DATA
CN58-3	nSCK	CTS2 CN81-3	 <p>+5V(H) 0V(L)</p>	500 Sheets Cassette Interface CLOCK
CN58-4	pOPRST	CTS2 CN81-4	 <p>+5V(H) 0V(L)</p>	500 Sheets Cassette Interface Reset
CN58-5	MGND	CTS2 CN81-5	 <p>0V</p>	Ground
CN58-6	MGND	CTS2 CN81-6	 <p>0V</p>	Ground
CN58-7	+24	CTS2 CN81-7	 <p>+24V</p>	+24 VDC Power Supply
CN58-8	+24VM	CTS2 CN81-8	 <p>+24V (H) 0V (L)</p>	+24 VDC Power Supply



Pin No.	Signal Name	Destination	Signal Waveform	Function
CN58-9	+5V	CTS2 CN81-9		+5 VDC Power Supply
CN58-10	GND	CTS2 CN81-10		Ground
CN58-11	nOP	CTS2 CN81-11		250 Sheets Feeder Unit Detection Signal
CN58-12	pADF2	CTS2 CN81-12		Feed Roller Drive Clutch Control Signal (250 sheets Cassette)
CN58-13	nPDOR2	CTS2 CN81-13		Jam Cover Sensor Detection Signal
CN58-14	nPCHK2	CTS2 CN81-14		No Paper Detection Signal (250 sheets Cas- sette)
CN58-15	nSIZE23	CTS2 CN81-15		Not Used
CN58-16	nCCHK2	CTS2 CN81-16		No Paper Detection Signal (250 sheets Cas- sette)
CN58-17	nSIZE22	CTS2 CN81-17		Same as CN61
CN58-18	nSIZE21	CTS2 CN81-18		Same as CN61

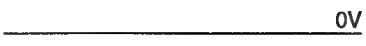



**CN59**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN59-1	nMMP3	Printer Motor		Rotate Signal
CN59-2	nMMP2	Printer Motor		Motor Ready Signal
CN59-3	+24VM	Printer Motor		+24 VDC Power Supply
CN59-4	MGND	Printer Motor		Ground


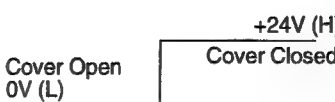
**CN61**

Pin No.	Signal Name	Destination	Signal Waveform	Function										
CN61-1	nSIZE11	SSN CN101-1		<table><tr><td>nSIZE11</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>nSIZE12</td><td>L</td><td>L</td><td>H</td><td>H</td></tr></table> <div><div>LTR</div><div>LGL</div><div>A4</div></div>	nSIZE11	L	H	L	H	nSIZE12	L	L	H	H
nSIZE11	L	H	L		H									
nSIZE12	L	L	H		H									
CN61-2	GND	SSN 101-2												
CN61-3	NC													
CN61-4	nSIZE12	SSN 101-4												
CN61-5	GND	SSN 101-5												
CN61-6	NC													

## CN62

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN62-1	GND	Toner Sensor CN114-1		Ground
CN62-2	TONER	Toner Sensor CN114-2	Analog Signal	Remaining Toner Level Signal
CN62-3	+5V	Toner Sensor CN114-3		+5 VDC Power Supply
CN62-4	nRSEN	Timing Sensor CN113-1		Timing Sensor Detection Signal
CN62-5	GND	Timing Sensor CN113-2		Ground
CN62-6	LDSR	Toner Sensor CN113-3	Approx. +2 VDC	Timing Sensor LED Drive Current

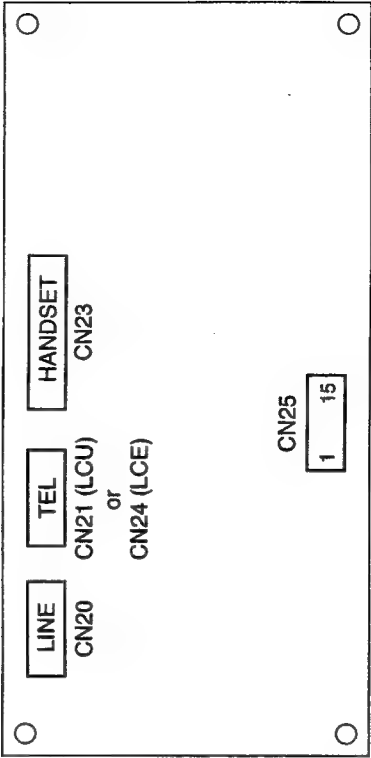
## CN63

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN63-1	+24V	ILS PCB CN73-1		+24 VDC Power Supply
CN63-2	NC			Not Connected
CN63-3	+24VD	ILS PCB CN73-3		Printer Cover Detection Signal

## CN69

Refer to FCB PCB CN12.

3.10 LCU/LCE PCB



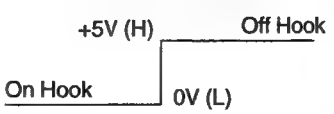
**CN20**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN20-1	NC			Not Used
CN20-2	NC			Not Used
CN20-3	L2(T)	Telephone Line		Line Signal
CN20-4	L1(R)	Telephone Line		Line Signal

**CN21**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN21-1	NC			Not Used
CN21-2	NC			Not Used
CN21-3	T1	External Telephone		Line Signal for the External Telephone
CN21-4	T2	External Telephone		Line Signal for the External Telephone

**CN23**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN23-1	AI	SRU PCB CN90-6		Switch Hook Signal
CN23-2	NC	SRU PCB CN90-1		Not Connected

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN23-3	HLIN1	SRU PCB CN90-2		Line Signal for the Fax Handset
CN23-4	HLIN2	SRU PCB CN90-3		Line Signal for the Fax Handset
CN23-5	NC	SRU PCB CN90-7		Not Connected
CN23-6	AIS	SRU PCB CN90-5	0V	Ground

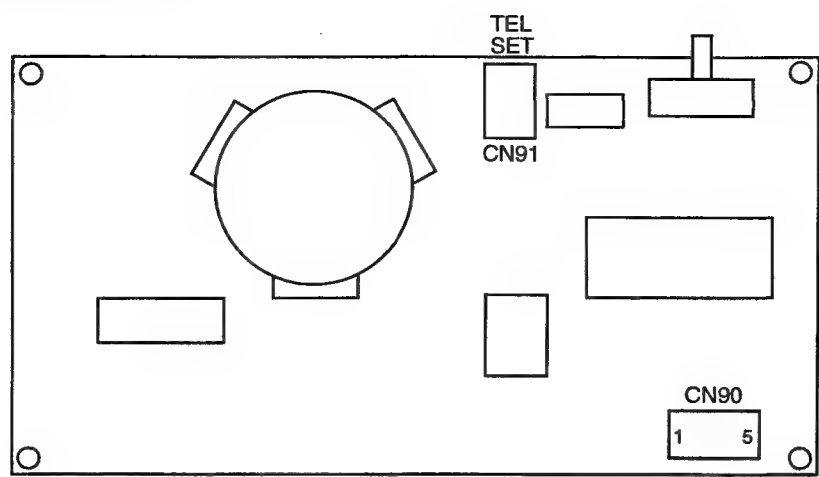
#### CN24

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN24-1	NC	External Telephone		Not Connected
CN24-2	T2	External Telephone		Line Signal for the External Telephone
CN24-3	NC	External Telephone		Not Connected
CN24-4	NC	External Telephone		Not Connected
CN24-5	T1	External Telephone		Line Signal for the External Telephone
CN24-6	NC	External Telephone		Not Connected


#### CN25

Refer to FCB PCB CN3.

3.11 SRU PCB (Optional)



**CN91**

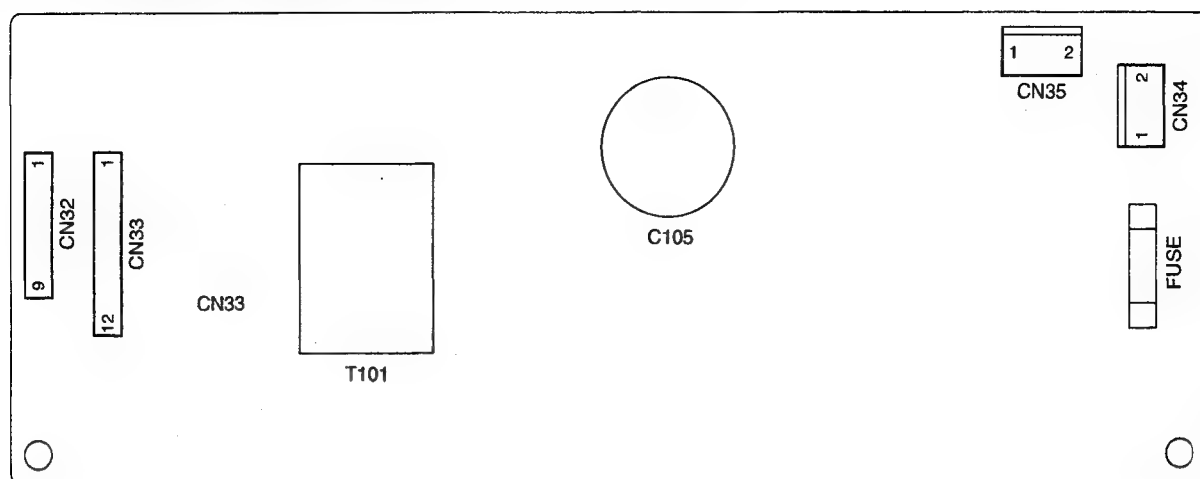
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN91-1	NC			Not Connected
CN91-2	MIC (+)	Telephone Handset CN		Handset Microphone
CN91-3	RCV (+)	Telephone Handset CN		Handset Receiver
CN91-4	RCV (-)	Telephone Handset CN		Handset Receiver
CN91-5	MIC (-)	Telephone Handset CN		Handset Microphone
CN91-6	TGND		 0V	Ground

**CN90**

Refer to LCU PCB CN23.



### 3.12 Low Voltage Power Supply PCB (POW)



**CN32**

Refer to FCB PCB CN13.

**CN33**

Refer to LPC PCB CN1.

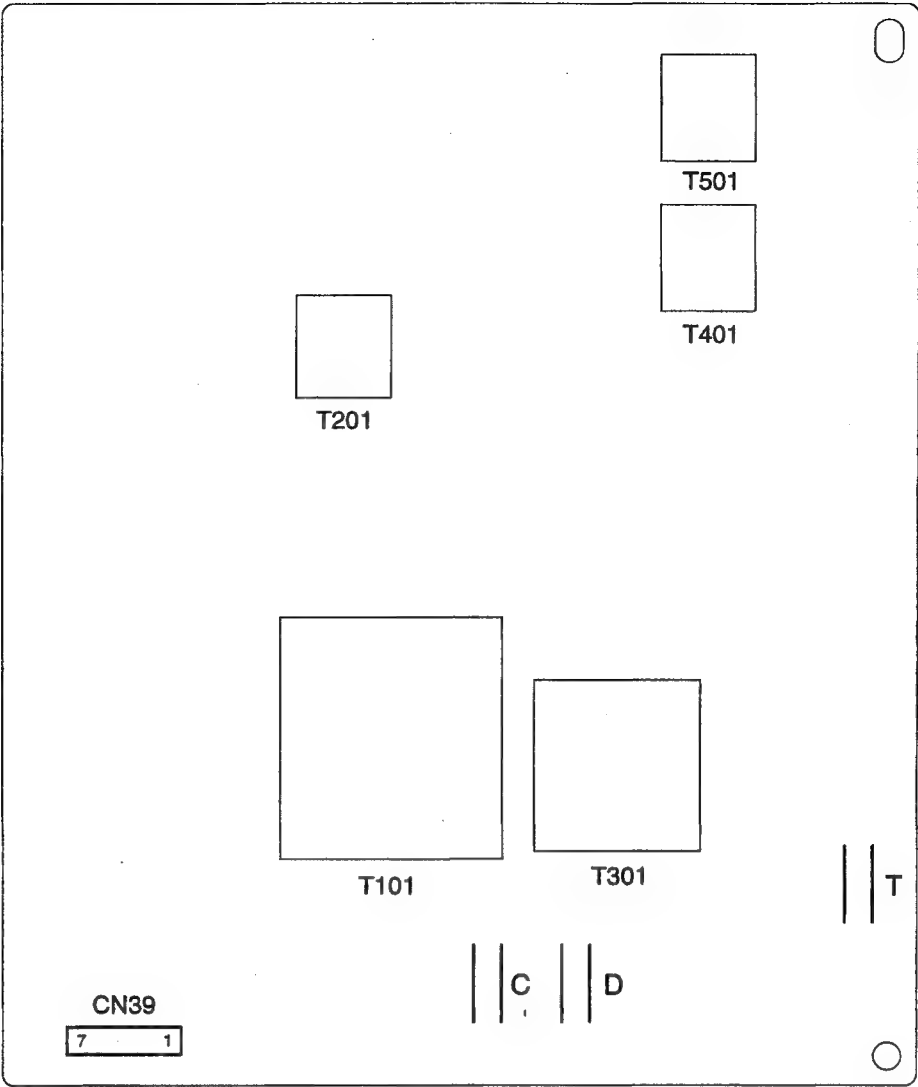
**CN34**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN34-1	LIVE	ACI PCB		AC Input (Black-Live)
CN34-2	NEUTRAL	ACI PCB		AC Input (White-Neutral)

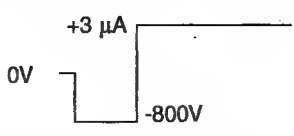


**CN35**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN35-1	HEAT 2	Fuser Unit CN116		Fuser Lamp AC (White-Neutral)
CN35-2	HEAT 1	Fuser Unit CN116		Fuser Lamp AC (Black-Live)

3.13 High Voltage Power Supply PCB (HVPS)



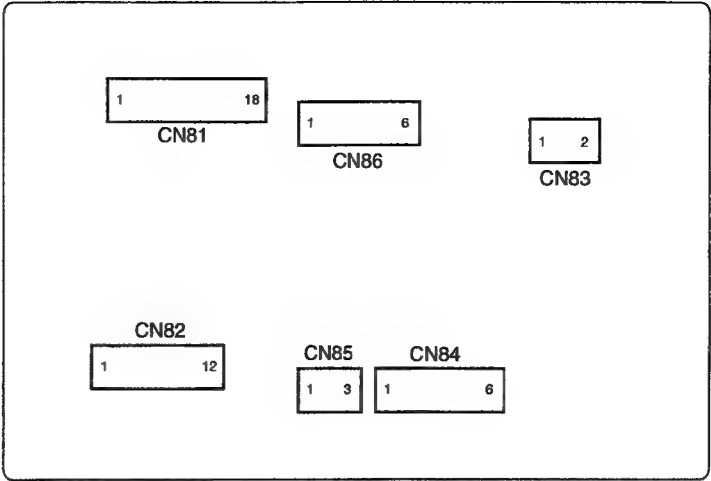
## High Voltage Output

Pin No.	Signal Name	Destination	Signal Waveform	Function
T	Transfer	Bias Transfer Roller		(1) Transfer Current: (+3 $\mu$ A) (2) Cleaning Voltage: (-800 V)
C	Charge	Bias Charge Roller		Charge Current: 450 $\mu$ A (AC 400 Hz Sine Wave) & DC Charge Voltage
D	Development	Development Roller		Development Voltage (AC 1.7 kHz Square Wave) & DC Voltage

### CN39

Refer to LPC PCB CN52.

3.14 CST2 PCB (Option)



**CN81**



Refer to LPC PCB CN58.

**CN82**





Pin No.	Signal Name	Destination	Signal Waveform	Function
CN82-1	nSDO	CST3PCB CN101-1		500 Sheet Cassette Interface TX Data
CN82-2	nSDI	CST3PCB CN101-2		500 Sheet Cassette Interface RX Data
CN82-3	nSCK	CST3PCB CN101-3		500 Sheet Cassette Interface clock
CN82-4	pOPRST	CST3PCB CN101-4		500 Sheet Cassette Reset Signal
CN82-5	MGND	CST3PCB CN101-5		Ground
CN82-6	MGND	CST3PCB CN101-6		Ground
CN82-7	+24V	CST3PCB CN101-7		+24 VDC Power Supply
CN82-8	+24VM	CST3PCB CN101-8		+24 VDC Power Supply
CN82-9	+5V	CST3PCB CN101-9		+5 VDC Power Supply
CN82-10	GND	CST3PCB CN101-10		Ground
CN82-11				Not Connected

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN82-12				Not Connected

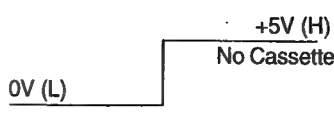

#### CN83

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN83-1	+24VM	Paper Feed Solenoid		+24 VDC Power Supply
CN83-2	nADF2	Paper Feed Solenoid		Feed Roller Drive Clutch Control Signal (250 Sheet Cassette)


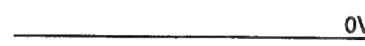


#### CN84

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN84-1	nPCHK2	No Paper Sensor CN121-1		No paper Detection Signal
CN84-2	GND	No Paper Sensor CN121-2		Ground
CN84-3	LDSP2	No Paper Sensor CN121-3	Approx. +2 VDC	+2 VDC Power Supply
CN84-4	nPDOR2	Jam Access Cover Detect Sensor CN122-1		Jam Cover Open Detection
CN84-5	GND	Jam Access Cover Detect Sensor CN122-2		Ground
CN84-6	LDSD2	Jam Access Cover Detect Sensor CN122-3	Approx. +2 VDC	+2 VDC Power Supply

# CN85

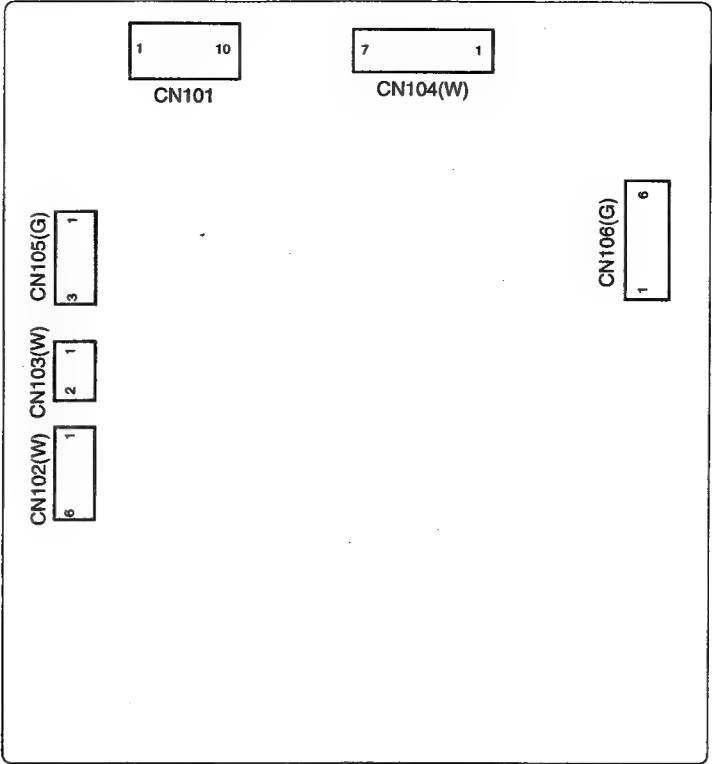
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN85-1	nCCHK2	Cassette Detect Sensor	 <p>0V (L)      +5V (H) No Cassette</p>	Paper Cassette Detection
CN85-2	NC			Not Connected
CN85-3	GND	Cassette Detect Sensor	 <p>0V</p>	Ground

# CN86

Pin No.	Signal Name	Destination	Signal Waveform	Function										
CN86-1	nSIZE21	SSN PCB CN101-1		<table border="1"><tr><td>nSIZE21</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>nSIZE22</td><td>L</td><td>L</td><td>H</td><td>H</td></tr></table> <div><div>LTR</div><div>LGL</div><div>A4</div></div>	nSIZE21	L	H	L	H	nSIZE22	L	L	H	H
nSIZE21	L	H	L		H									
nSIZE22	L	L	H		H									
CN86-2	GND	SSN PCB CN101-2												
CN86-3	NC													
CN86-4	nSIZE22	SSN PCB CN101-4												
CN86-5	GND	SSN PCB CN101-5												
CN86-6	NC													




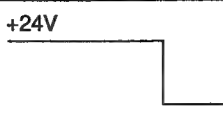


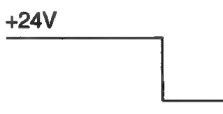

3.15 CST3 PCB (Option)



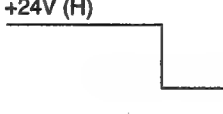

**CN101**

Refer to CST2 PCB CN82.

**CN102**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN102-1	n3MP1	Main Motor		Motor Drive Signal 1
CN102-2	+24VM	Main Motor		+24 VDC Power Supply
CN102-3	n3MP0	Main Motor		Motor Drive Signal 0
CN102-4	n3MP3	Main Motor		Motor Drive Signal 3
CN102-5	+24VM	Main Motor		+24 VDC Power Supply
CN102-6	n3MP2	Main Motor		Motor Drive Signal 2

**CN103**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN103-1	+24VM	Paper Feed Solenoid		+24 VDC Power Supply
CN103-2	nADF3	Paper Feed Solenoid		Paper Feed Solenoid Control Signal





**CN104**

Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-1	nPCHK2	No Paper Sensor CN131-1	<p>No Paper 0V (L)      +5V (H)</p>	No paper Detection Signal
CN104-2	GND	No Paper Sensor CN131-2	<p>0V</p>	Ground
CN104-3	LDSP3	No Paper Sensor CN131-3	Approx. +2 VDC	+2 VDC Power Supply
CN104-4	nPDOR3	Jam Access Cover Detect Sensor CN132-1	<p>Cover Open 0V (L)      +5V (H)</p>	Jam Cover Open Detection
CN104-5	GND	Jam Access Cover Detect Sensor CN132-2	<p>0V</p>	Ground
CN104-6	LDSD3	Jam Access Cover Detect Sensor CN132-3	Approx. +2 VDC	+2 VDC Power Supply
CN104-7	NC			Not Connected

**CN105**

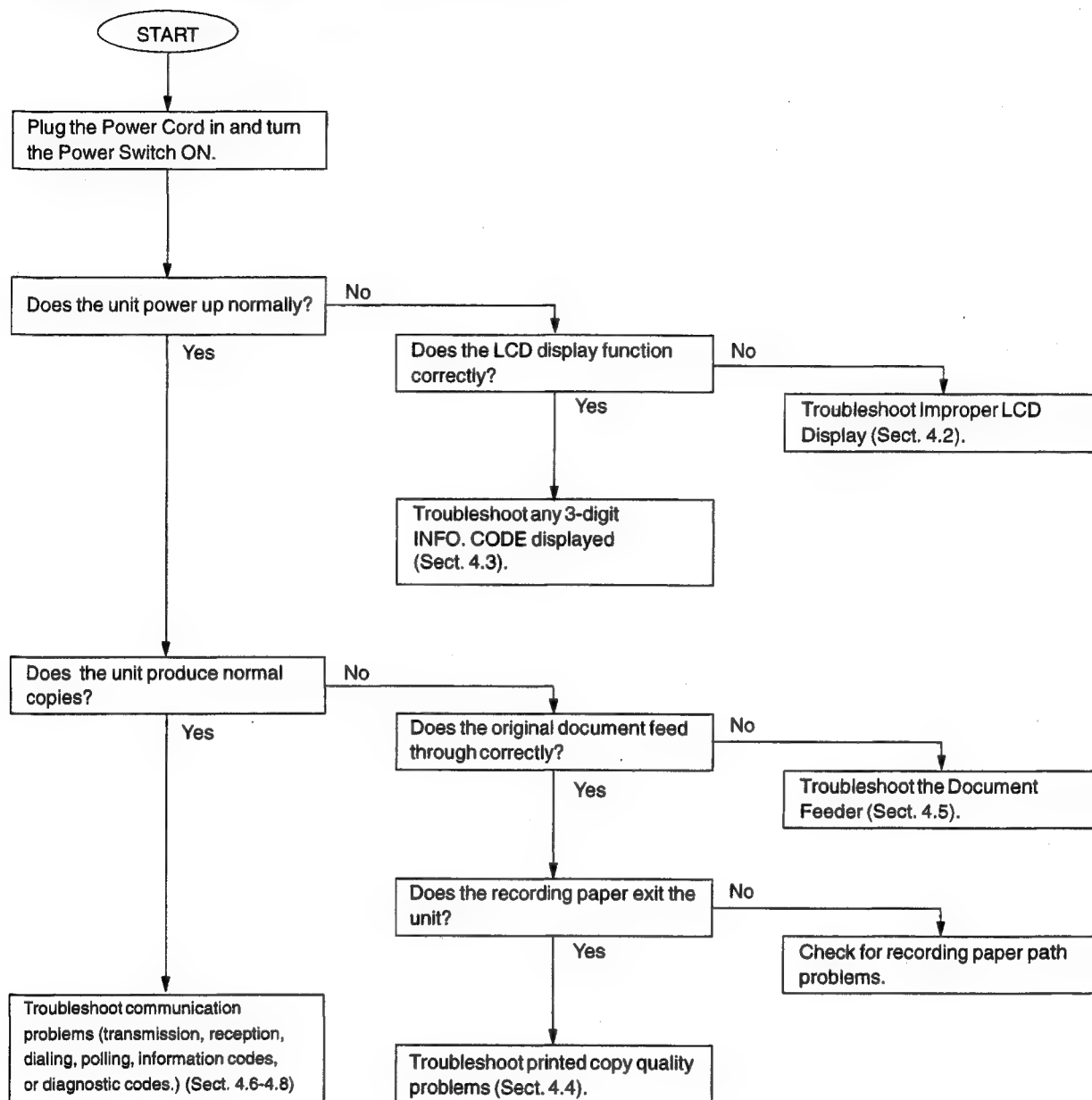
Pin No.	Signal Name	Destination	Signal Waveform	Function
CN105-1	nCCHK3	Cassette Detect Sensor	<p>0V (L)      +5V (H) No Cassette</p>	Paper Cassette Detection
CN105-2	NC	Cassette Detect Sensor		Not Connected
CN105-3	GND	Cassette Detect Sensor	<p>0V</p>	Ground

# CN106

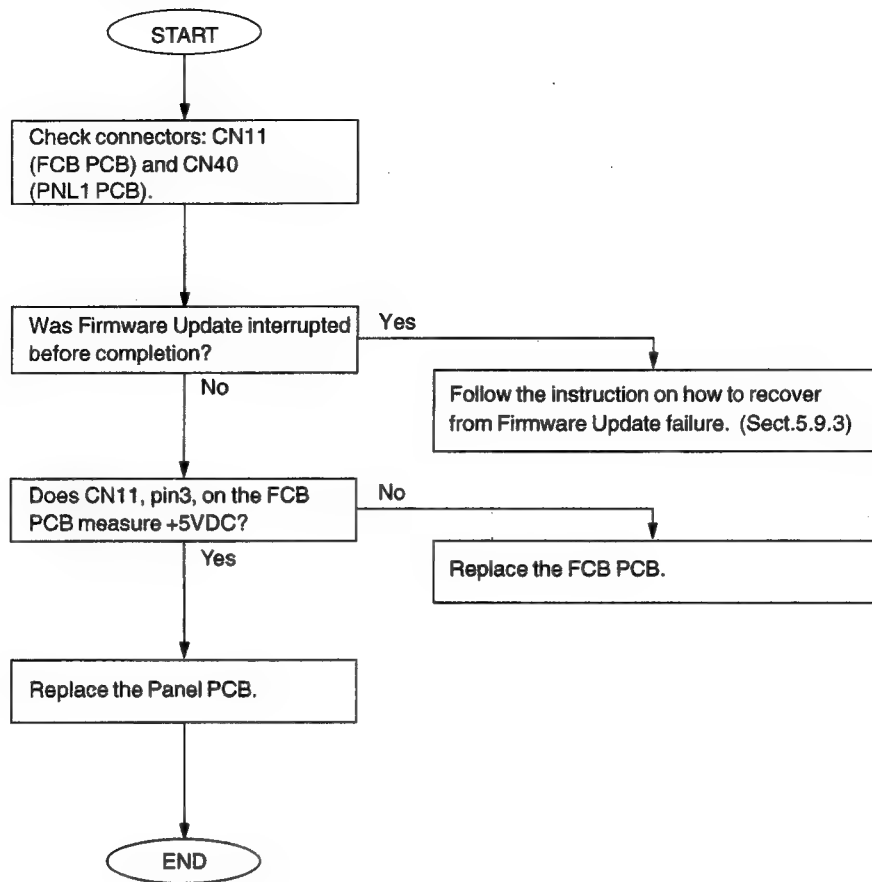
Pin No.	Signal Name	Destination	Signal Waveform	Function										
CN106-1	nSIZE31	SSN PCB CN101-1		<table border="1"> <tr> <td>nSIZE31</td><td>L</td><td>H</td><td>L</td><td>H</td></tr> <tr> <td>nSIZE32</td><td>L</td><td>L</td><td>H</td><td>H</td></tr> </table> <p>           LTR → L (nSIZE31)            LGL → L (nSIZE32)            A4 → H (nSIZE32)         </p>	nSIZE31	L	H	L	H	nSIZE32	L	L	H	H
nSIZE31	L	H	L	H										
nSIZE32	L	L	H	H										
CN106-2	GND	SSN PCB CN101-2												
CN106-3	NC													
CN106-4	nSIZE32	SSN PCB CN101-4												
CN106-5	GND	SSN PCB CN101-5												
CN106-6	NC													

## 4 Troubleshooting

### 4.1 Initial Troubleshooting Flowchart



## 4.2 Improper LCD Display

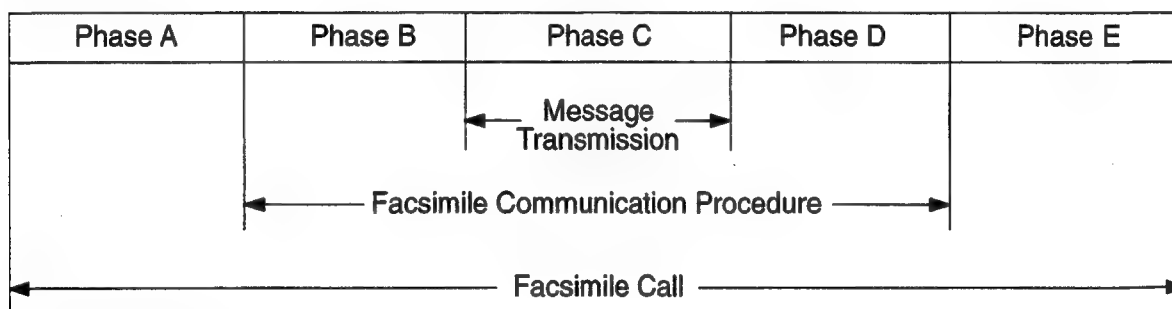


## 4.3 Information Codes (INFO. CODES)

The 3-digit information codes display to show the unit's status. These codes also print on the journal. The following table indicates appropriate sections for troubleshooting.

Code	Explanation	Phase	Section
001-003	Recording paper jam	C	4.3.8
007-008	Recording paper jam	C,D	4.3.8
010	No recording paper	B,C	4.3.9
030	Document misfeeding	B	4.3.10
031	Document too long	C	4.3.10
400	Transmission error	B	4.3.1
401	Transmission error	B	4.3.2
402	Transmission error	B	4.3.2
403	Polling reception error	B	4.3.12
404	Transmission error	B	4.3.3
405	Transmission error	B	4.3.3
407	Transmission error	D	4.3.3
408	Transmission error	D	4.3.5
409	Transmission error	D	4.3.5
411	Polling reception error	B	4.3.12
414	Polling reception error	B	4.3.12
415	Remote side mis-operation	B	4.3.12
416	Reception error	D	4.3.4
417	Reception error	C	4.3.5
418	Reception error	C	4.3.5
420	Reception error	B	4.3.1
422	Transmission error	B	4.3.2
434	Signal noise level too high	B	4.3.6
459	Reception error	C	4.3.7
490	Reception error	C	4.3.5
494	Reception error	C	4.3.7
495	Reception error	C	4.3.7
630	Remote unit busy	B	4.3.11
634	No busy tone detected	B	--

### Phase



Phase A: Call establishment

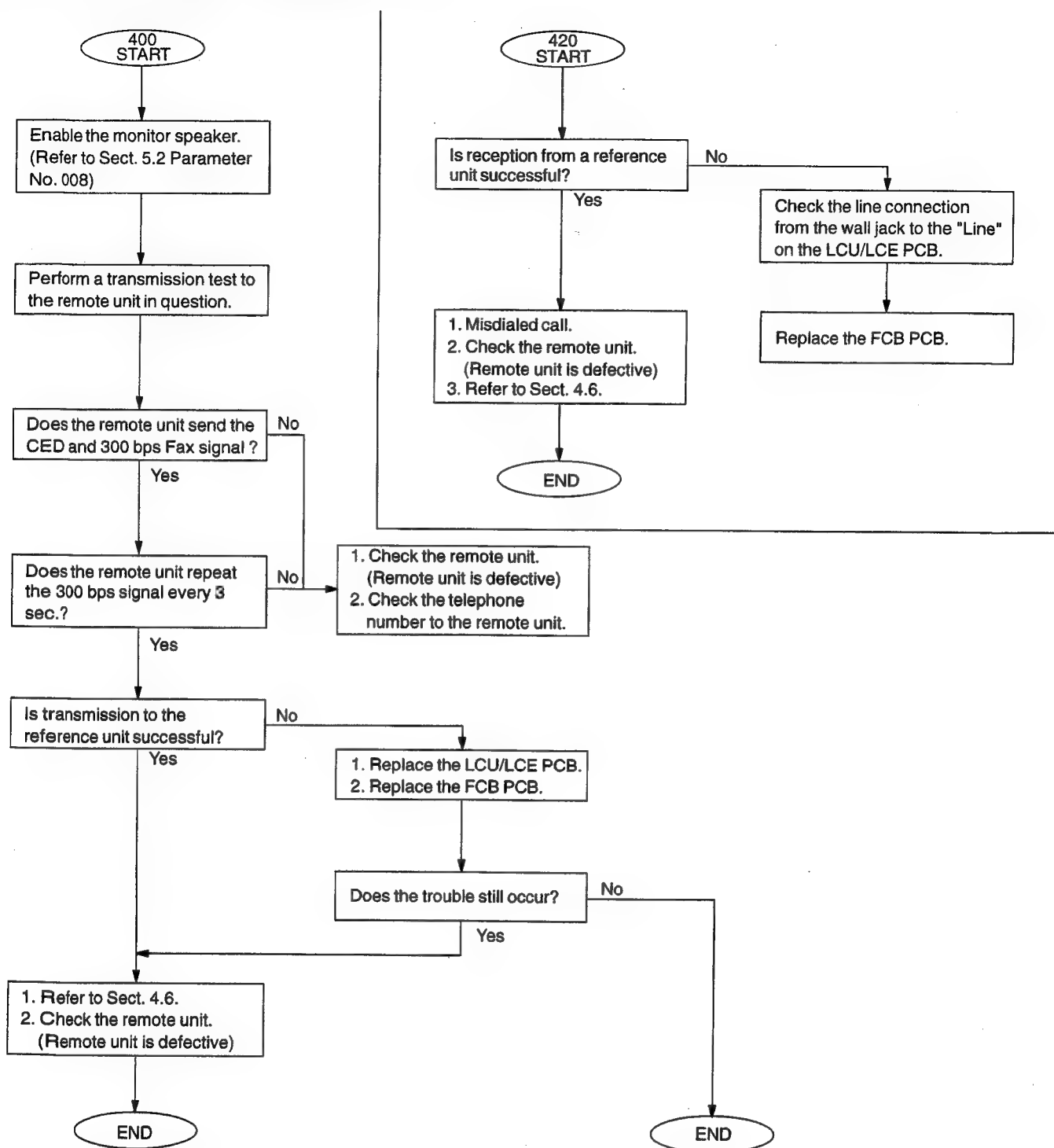
Phase B: Pre-message procedure

Phase C: Message transmission

Phase D: Post-message procedure

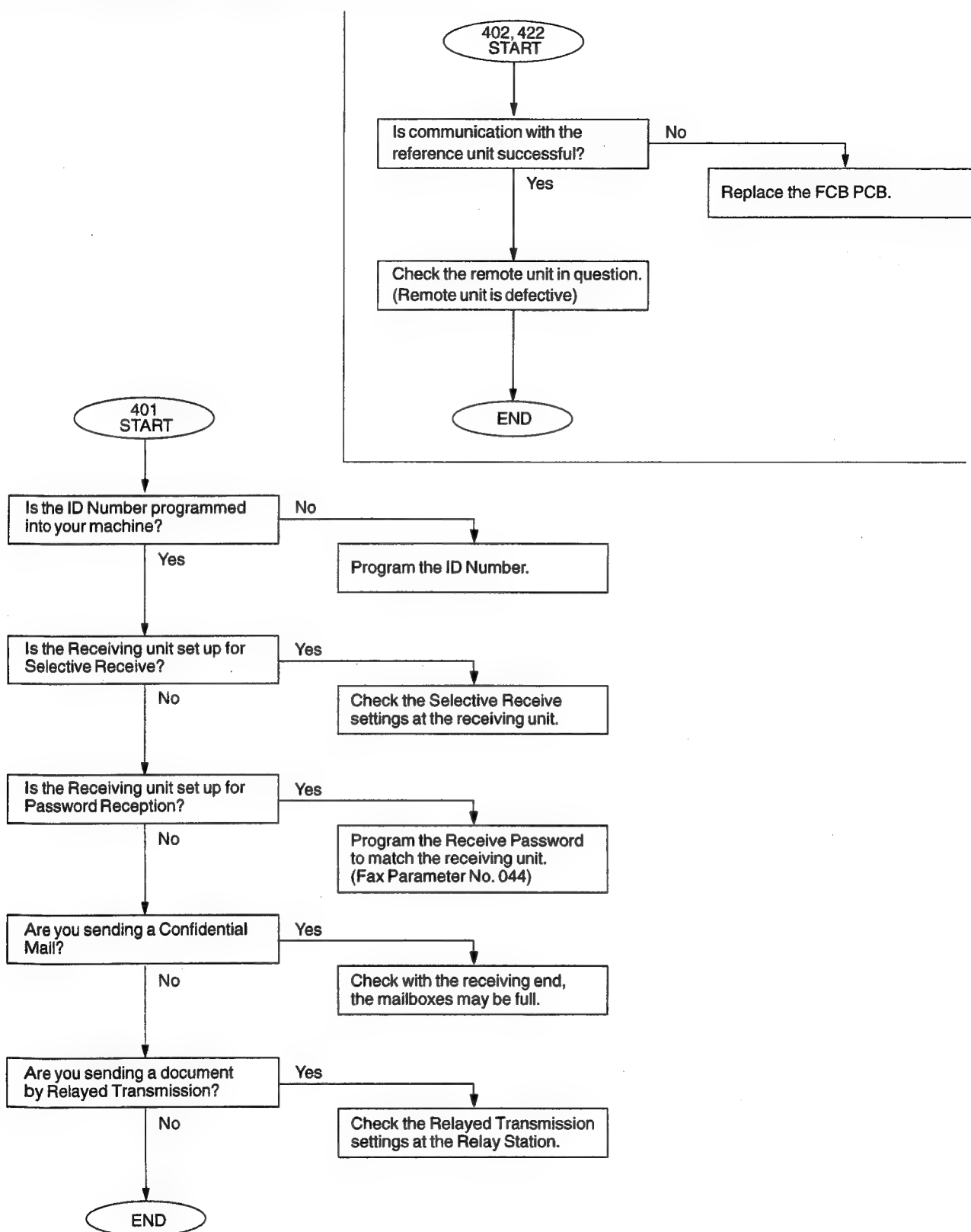
Phase E: Call release

### 4.3.1 Information Codes: 400, 420

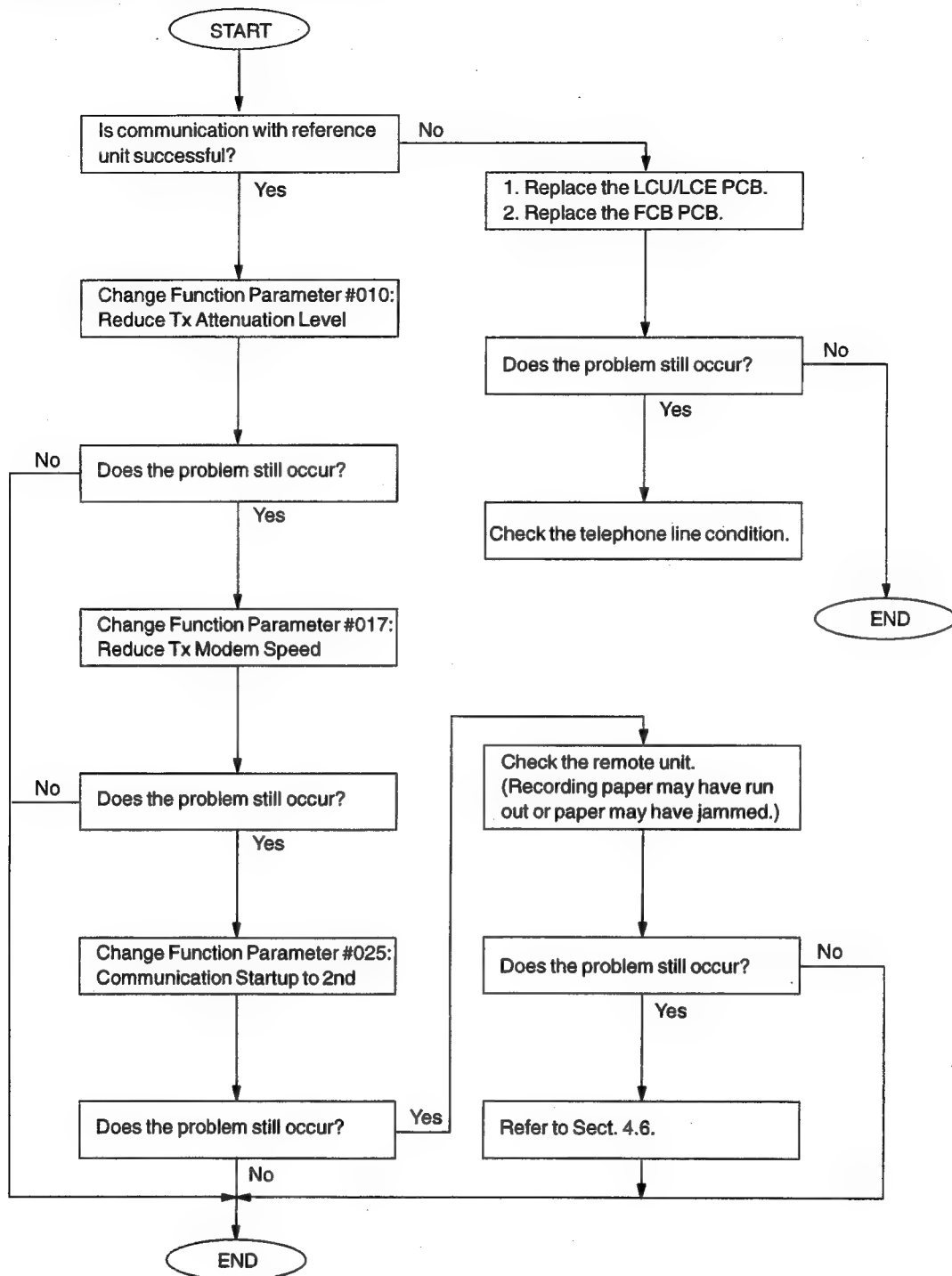




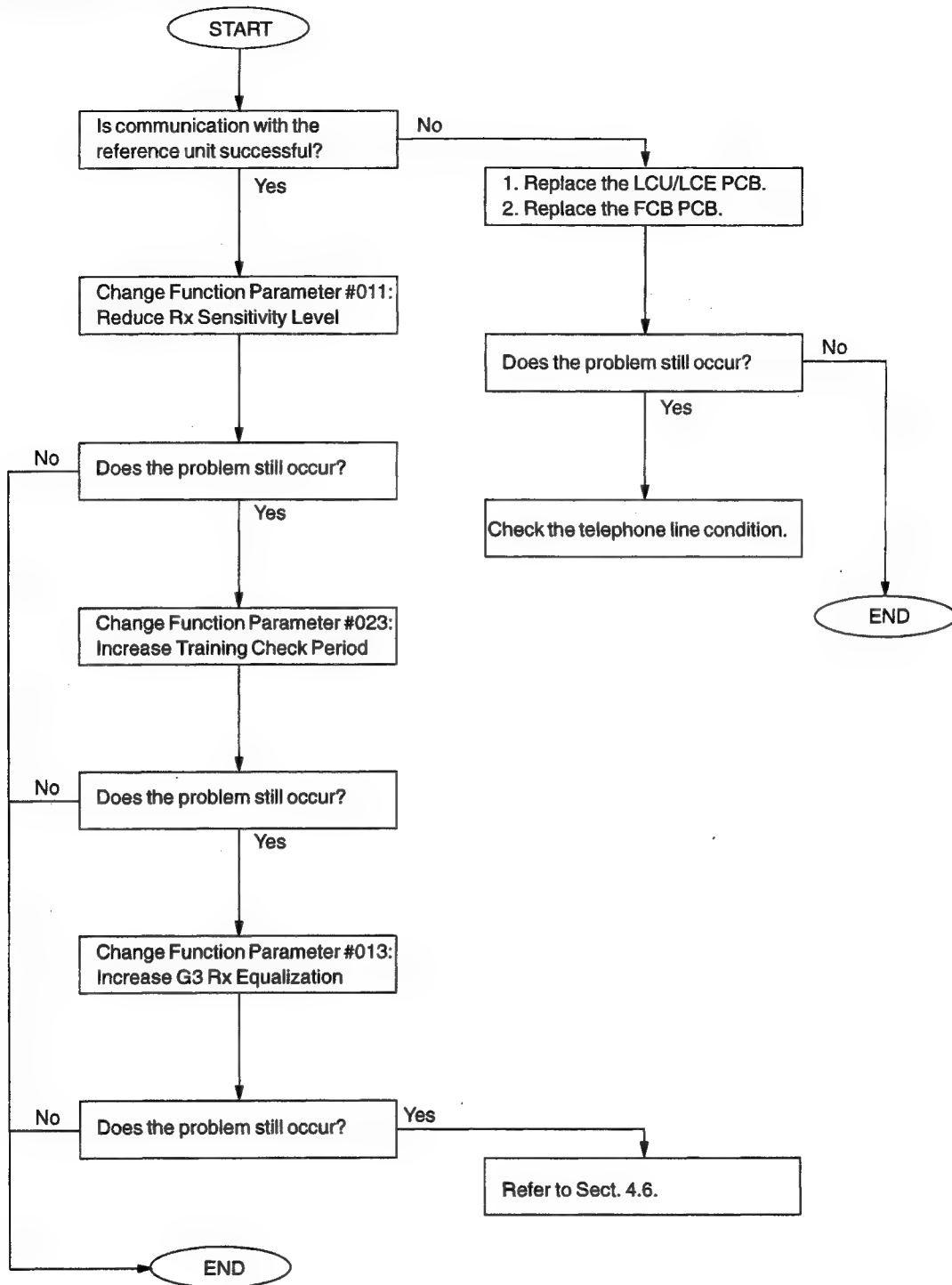
### 4.3.2 Information Codes: 401, 402, 422



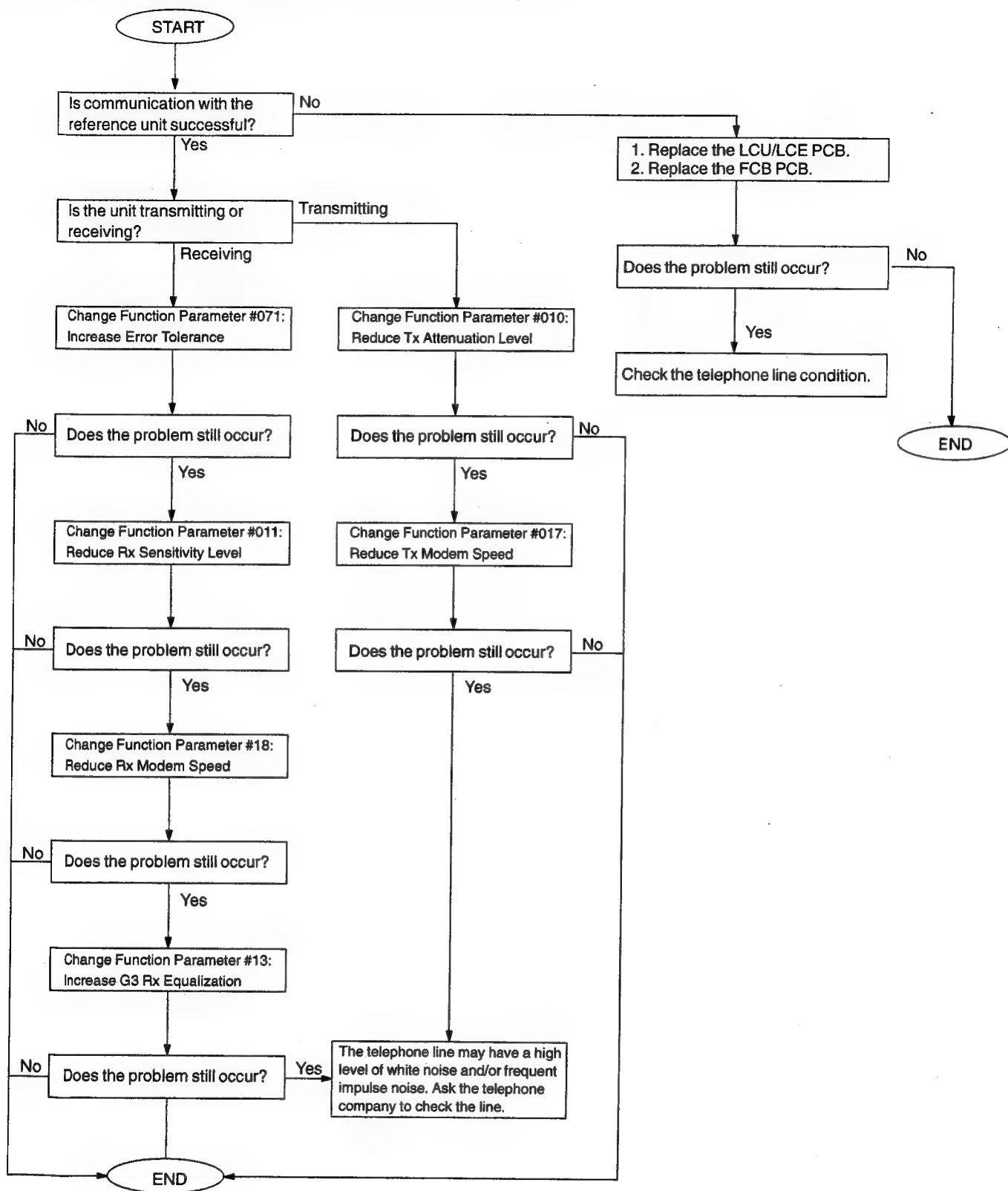
### 4.3.3 Information Codes: 404, 405, 407



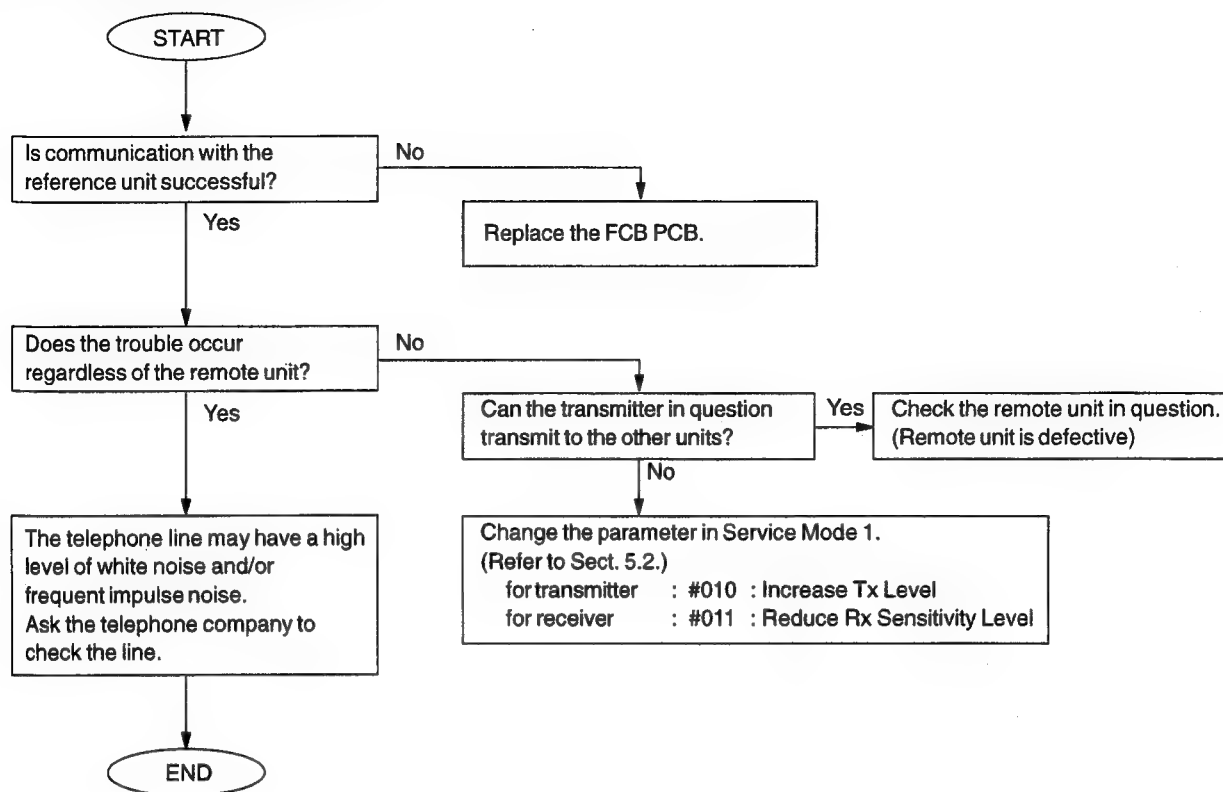
#### 4.3.4 Information Code: 416



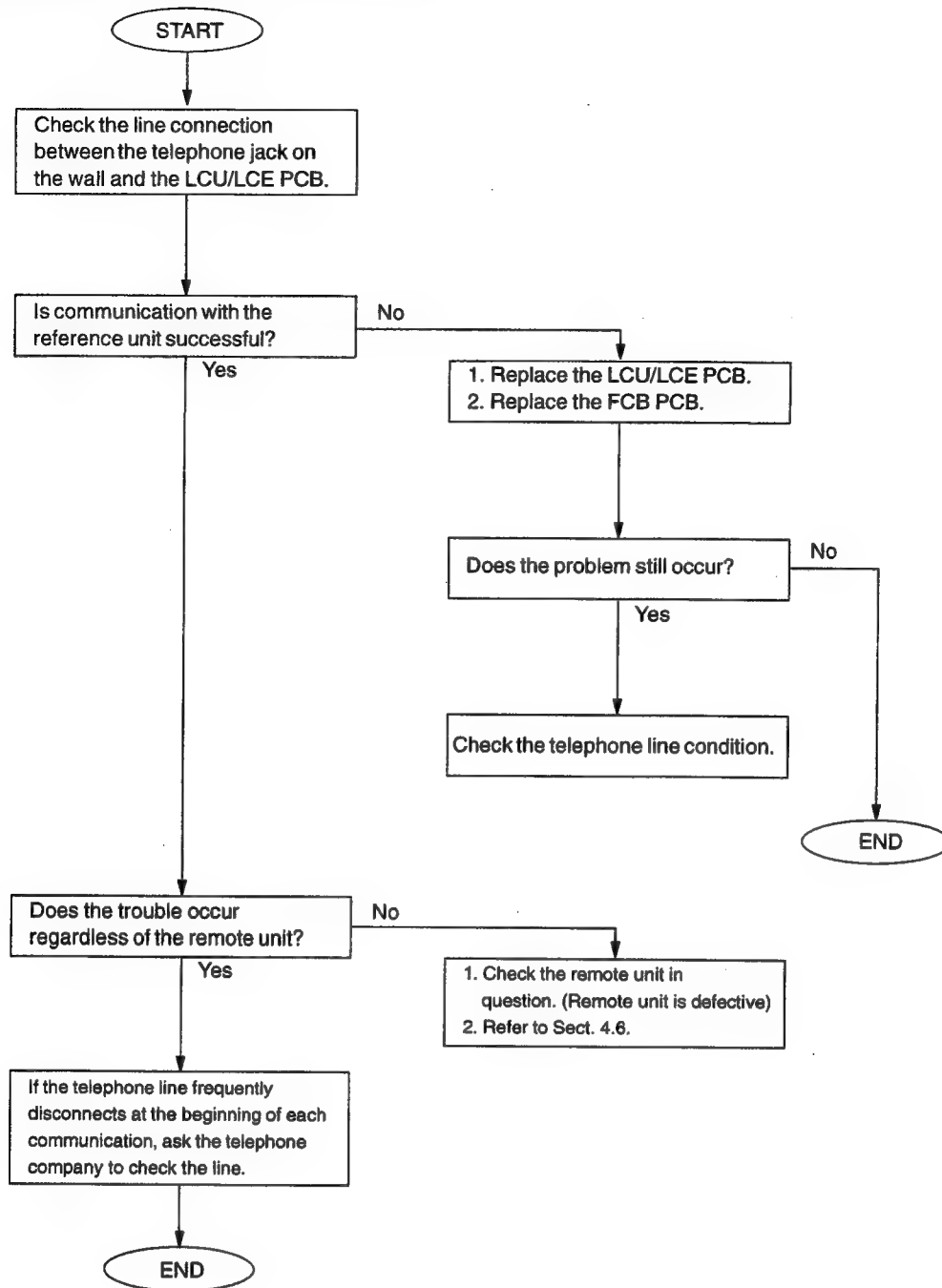
#### 4.3.5 Information Codes: 408, 409, 417, 418, 490



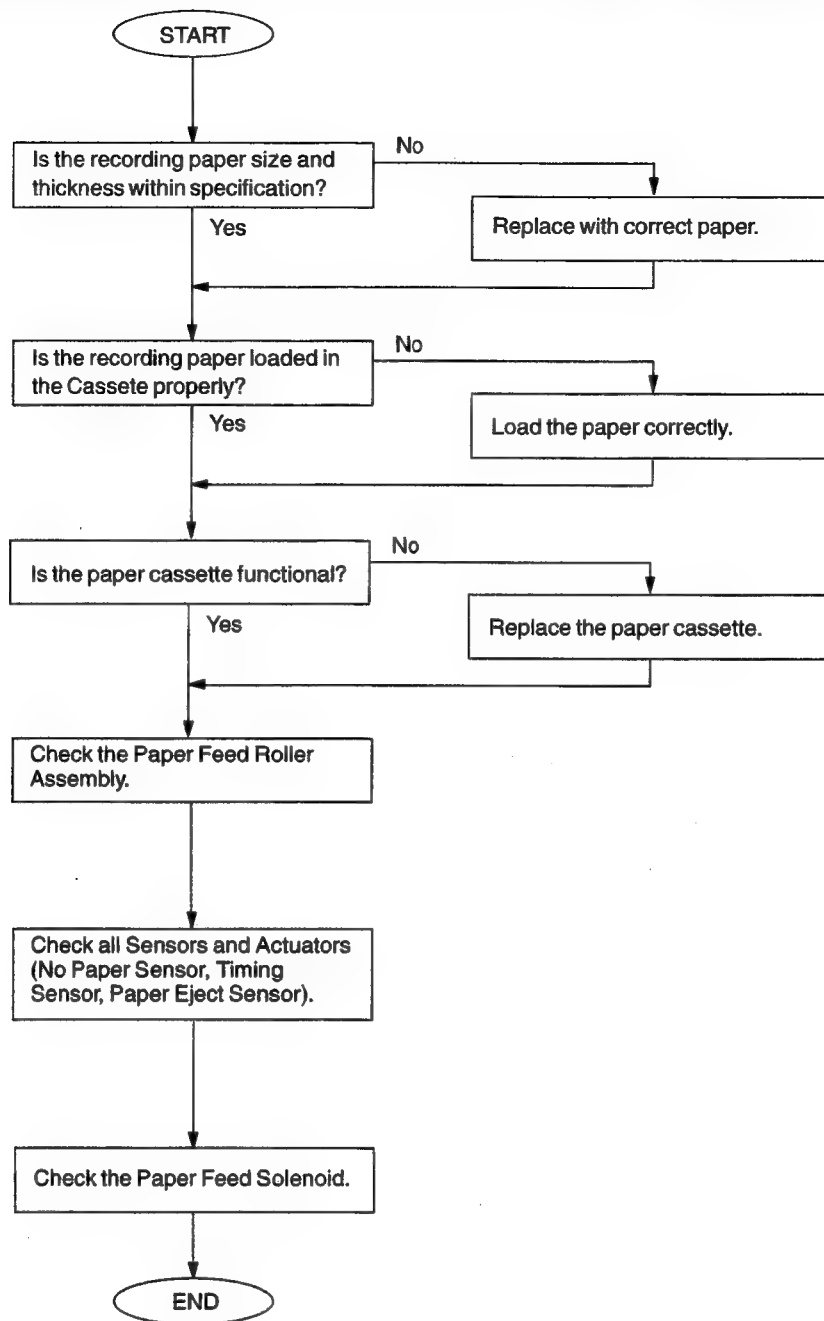
#### 4.3.6 Information Code: 434



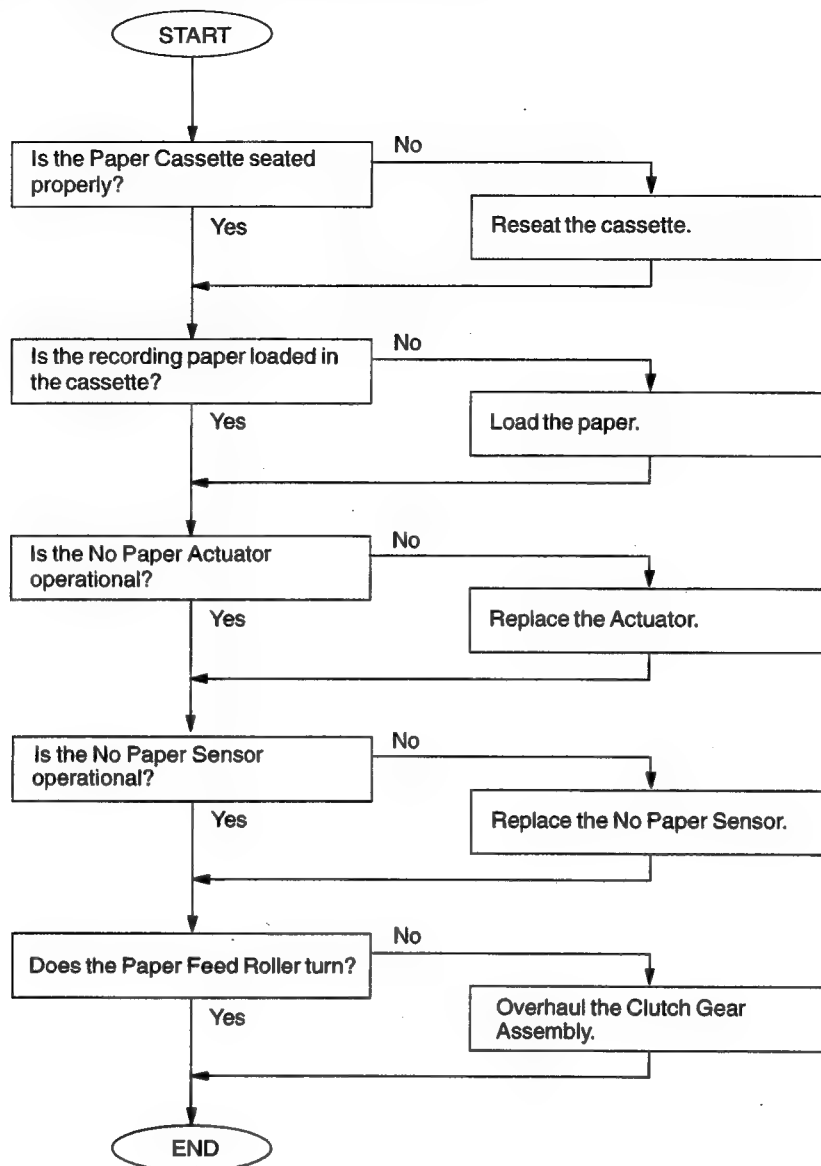
#### 4.3.7 Information Codes: 459, 494, 495



#### 4.3.8 Information Codes: 001, 002, 003, 007,008 (Recording Paper Jam)

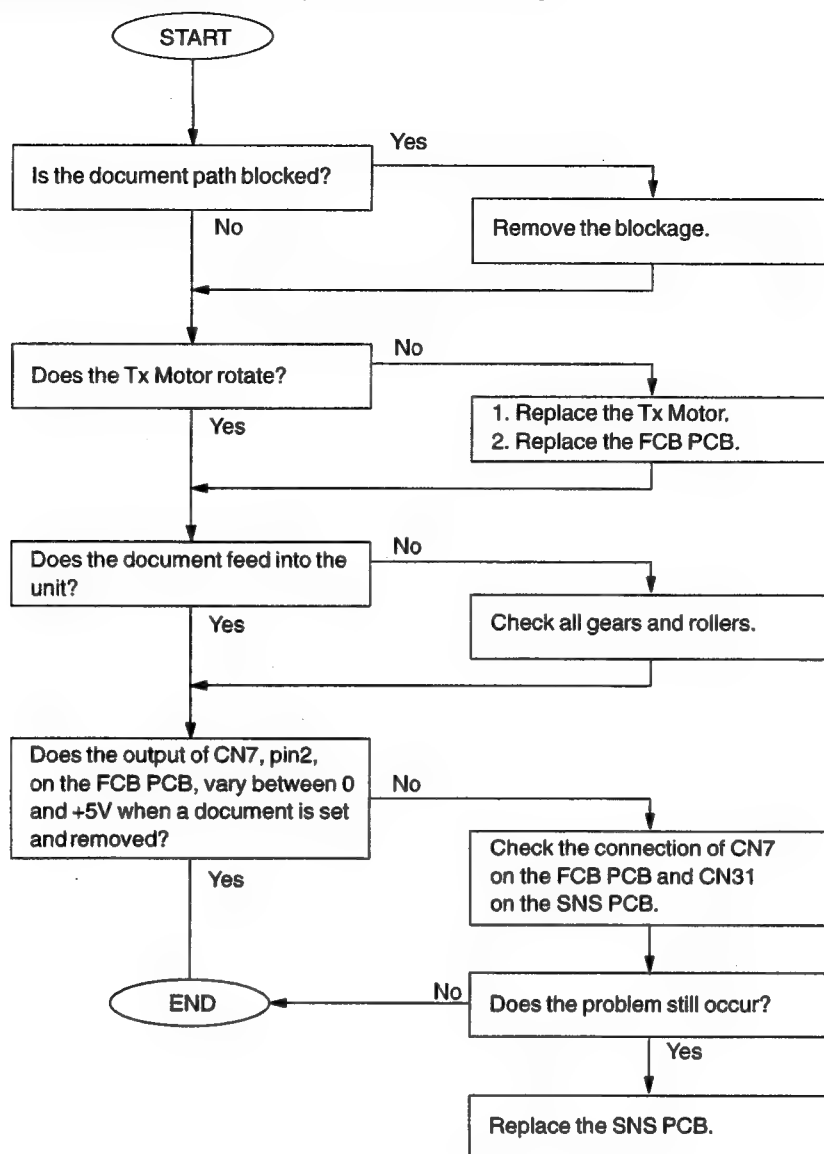


#### 4.3.9 Information Code: 010 (No Recording Paper)

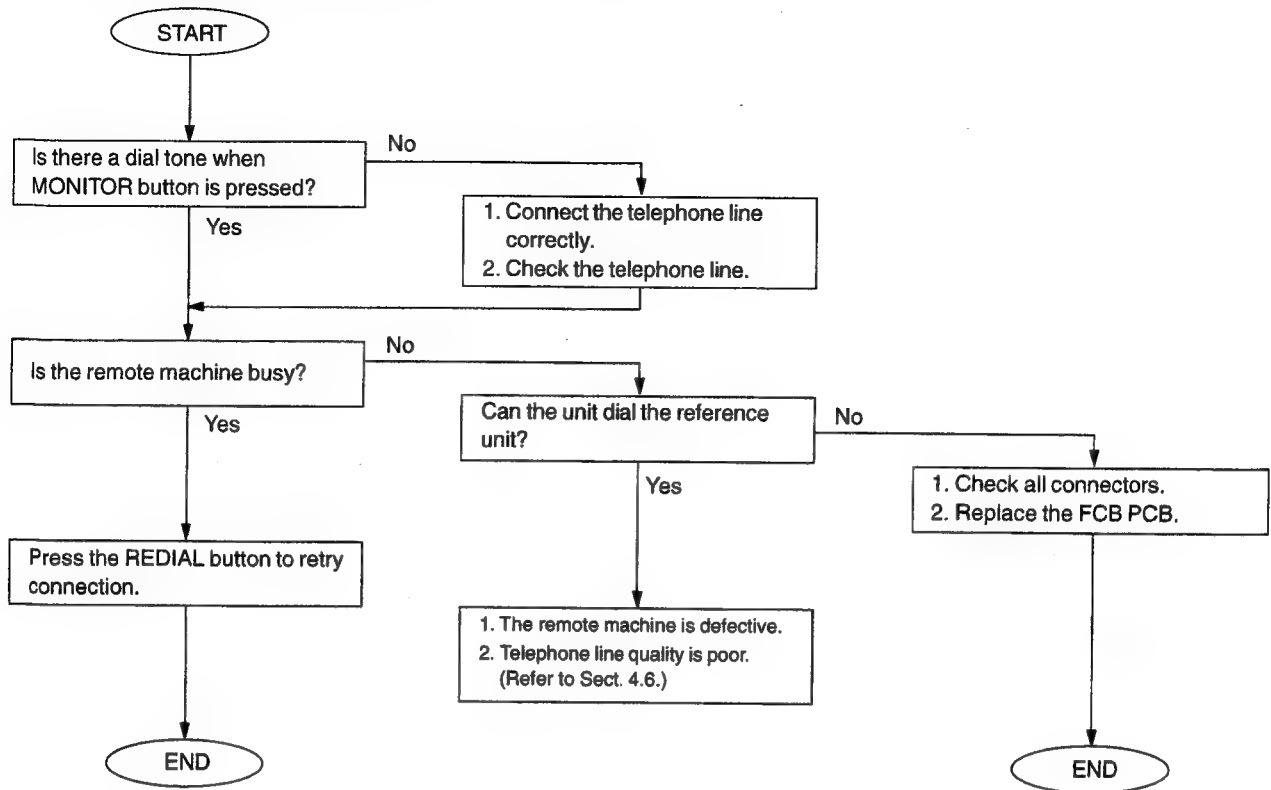




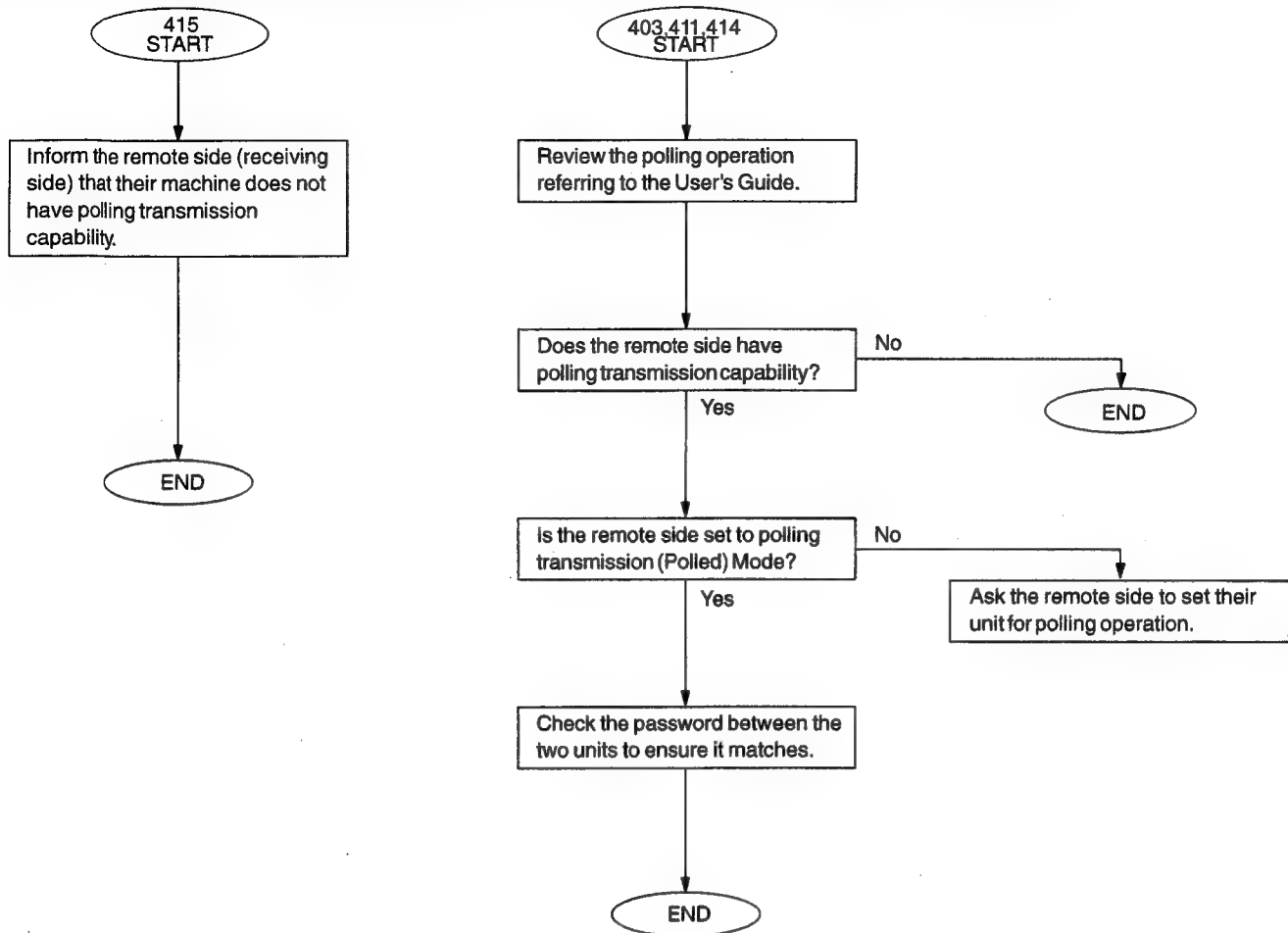
#### 4.3.10 Information Codes: 030, 031 (Document Jam)



#### 4.3.11 Information Code: 630 (Dialing Error)



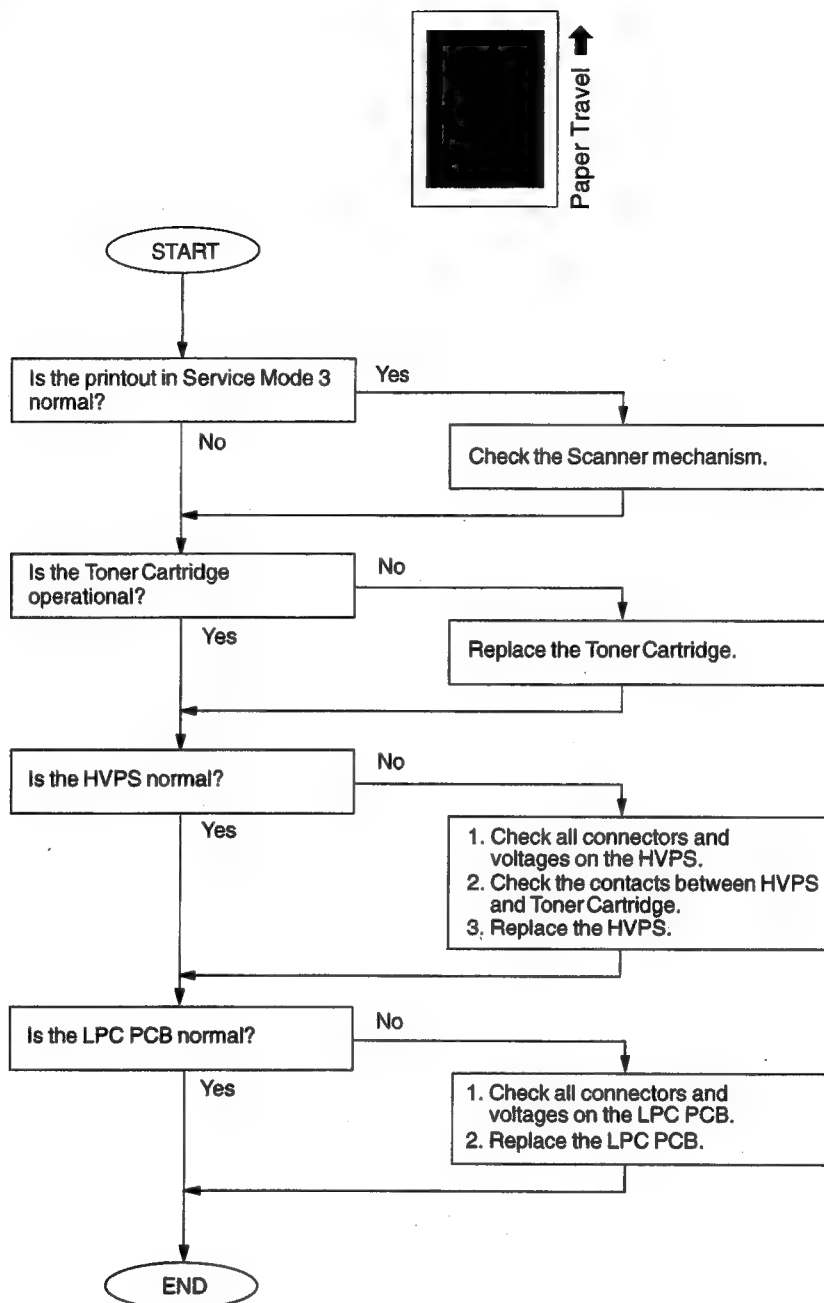
#### 4.3.12 Information Codes: 403, 411, 414, 415 (Polling Operator Trouble)



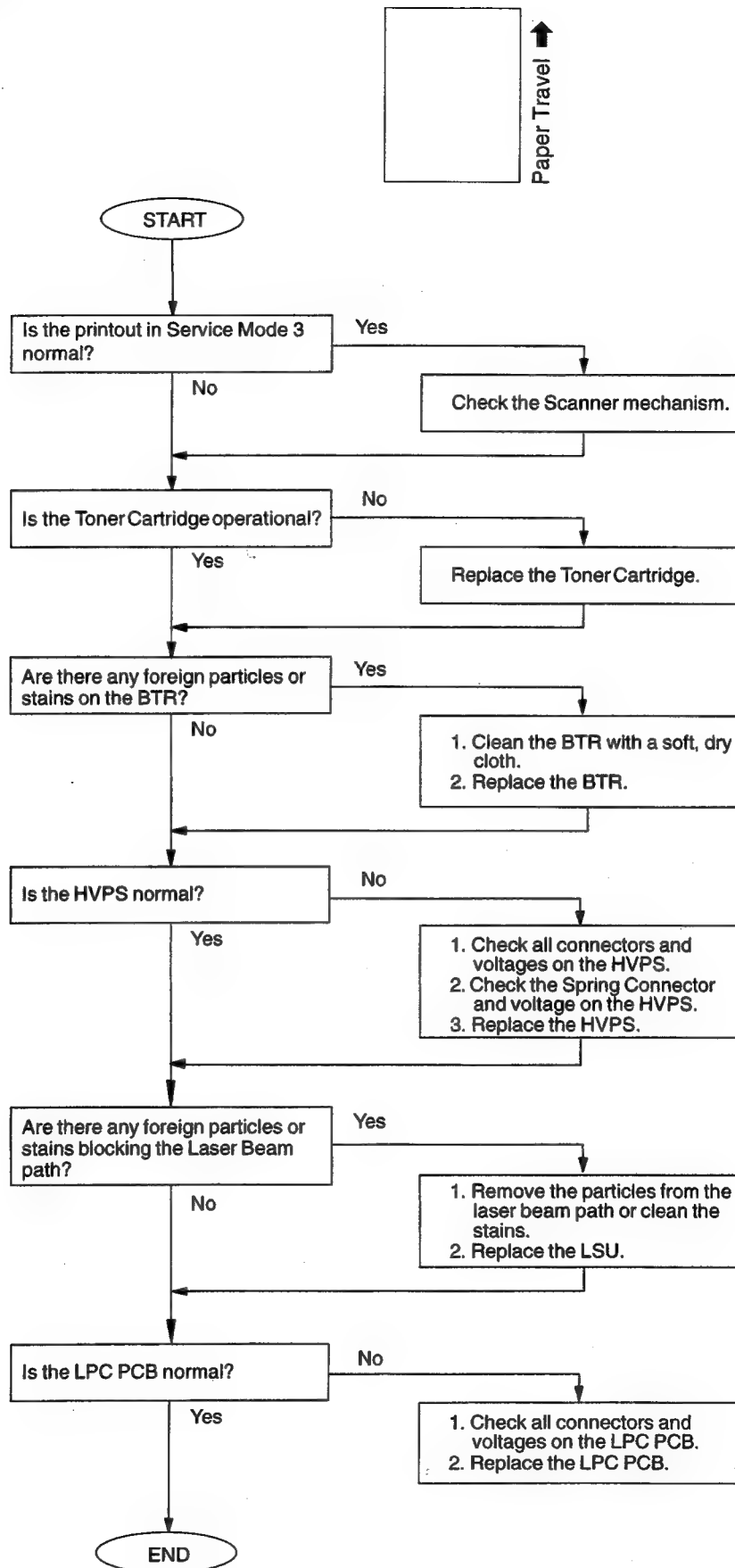
Polling communication with 4-digit password is not an ITU-T / CCITT Standard feature.  
If the transmitter and receiver are of different manufacturers, polling communication with password *may not* be possible.

## 4.4 Printed Copy Quality Problems

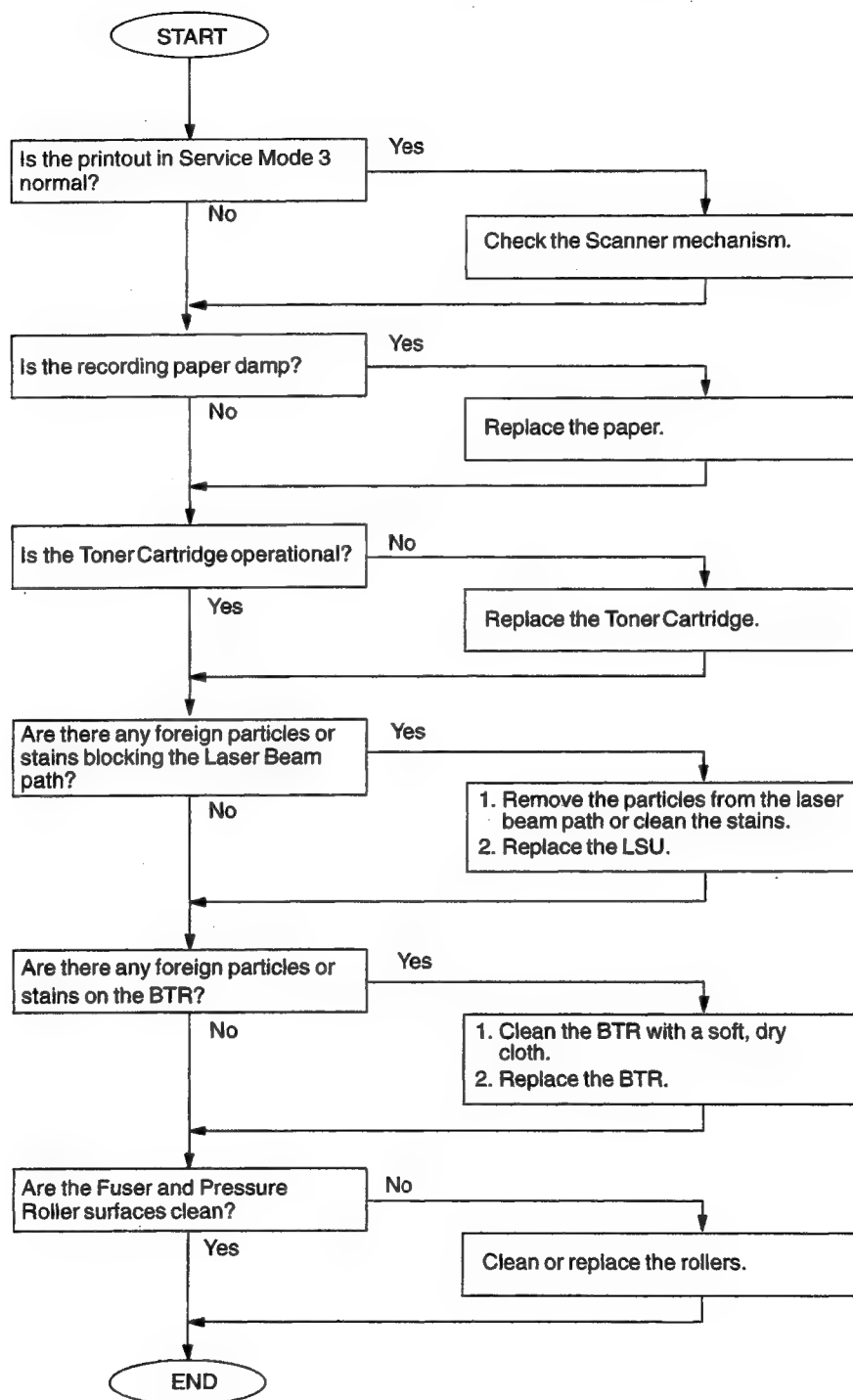
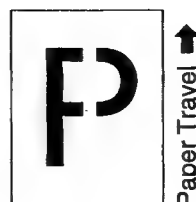
### 4.4.1 Black Copy



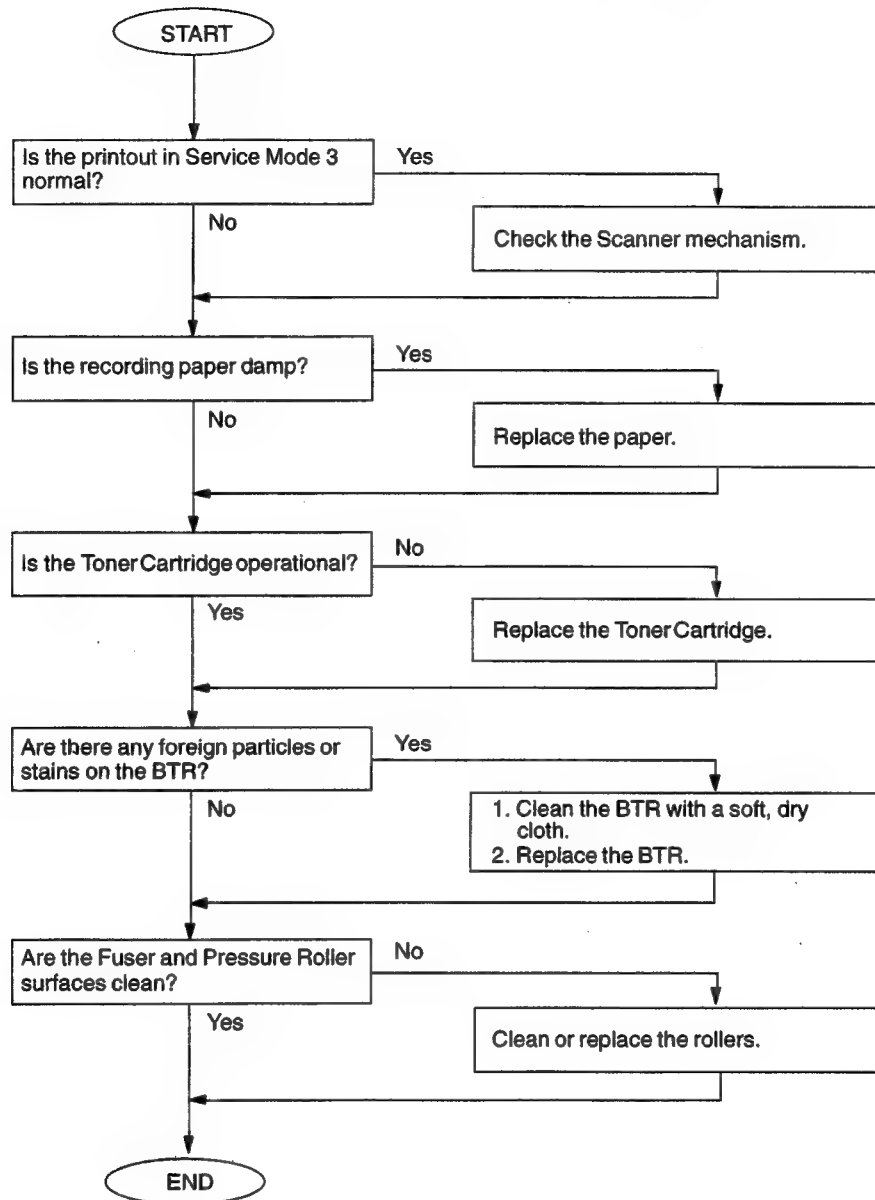
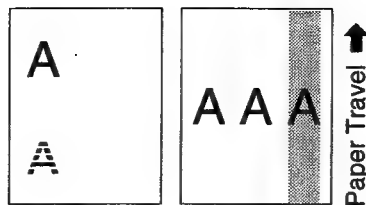
#### 4.4.2 Blank Copy



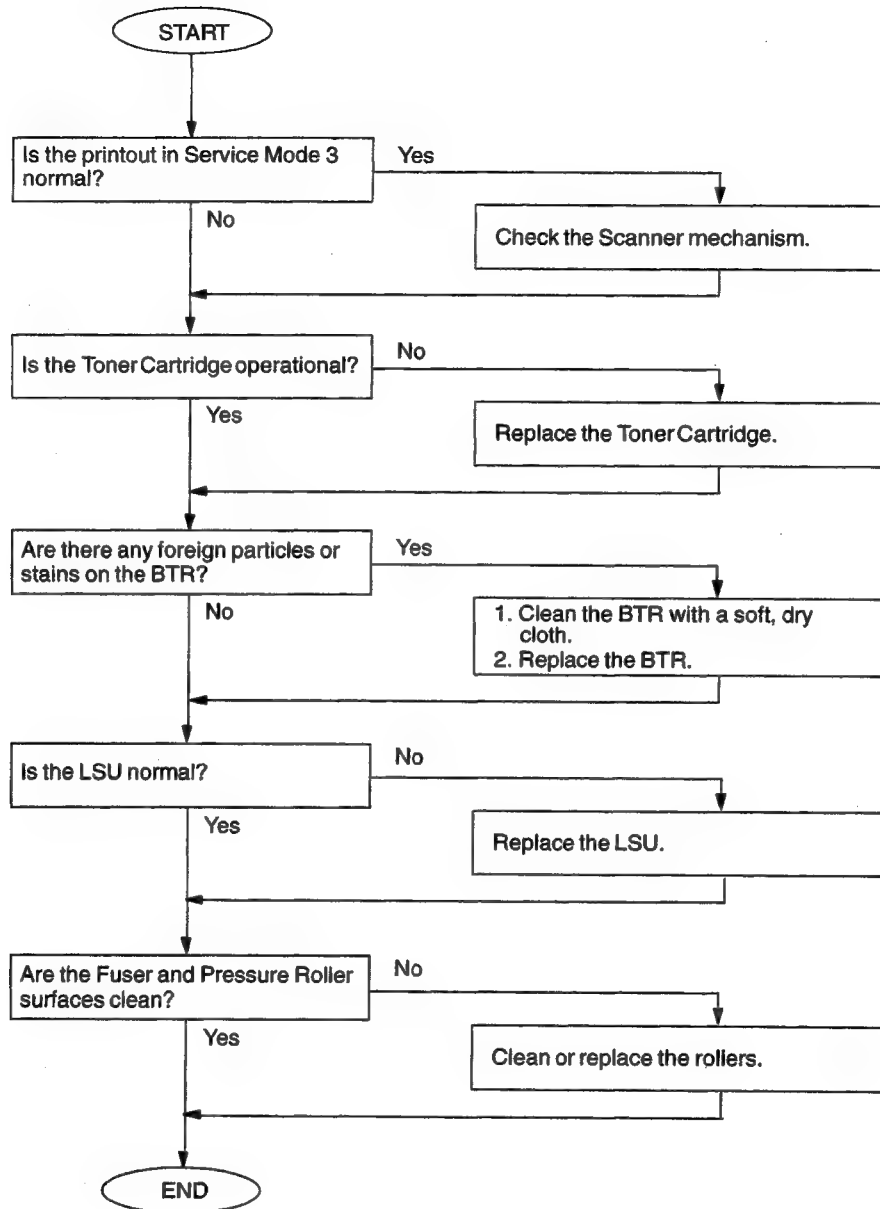
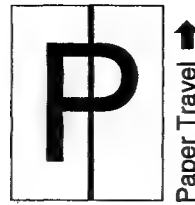
### 4.4.3 Vertical White Lines



#### 4.4.4 Ghost Images

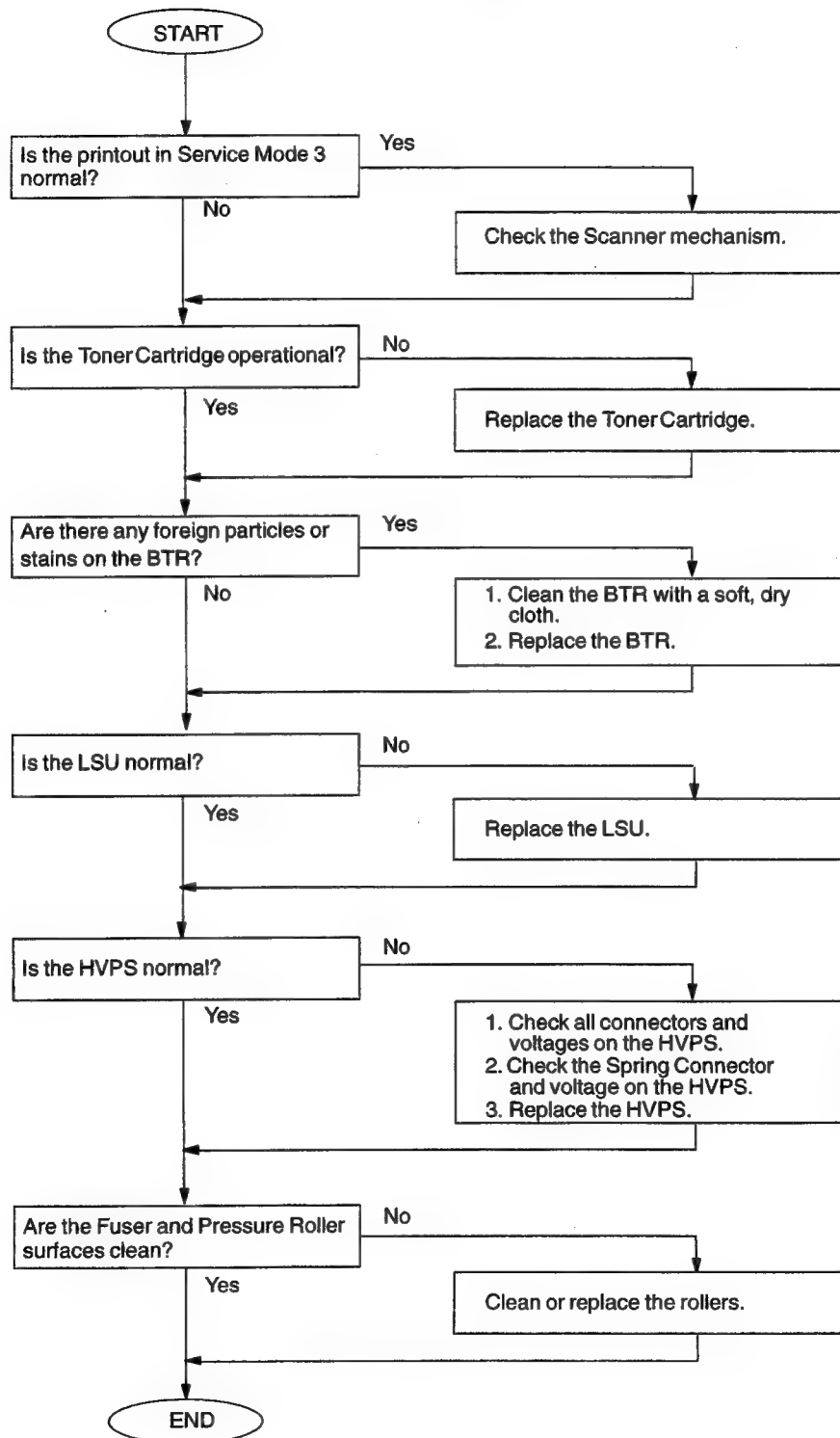
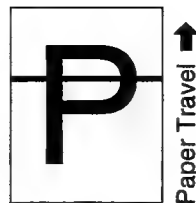


#### 4.4.5 Vertical Dark Lines

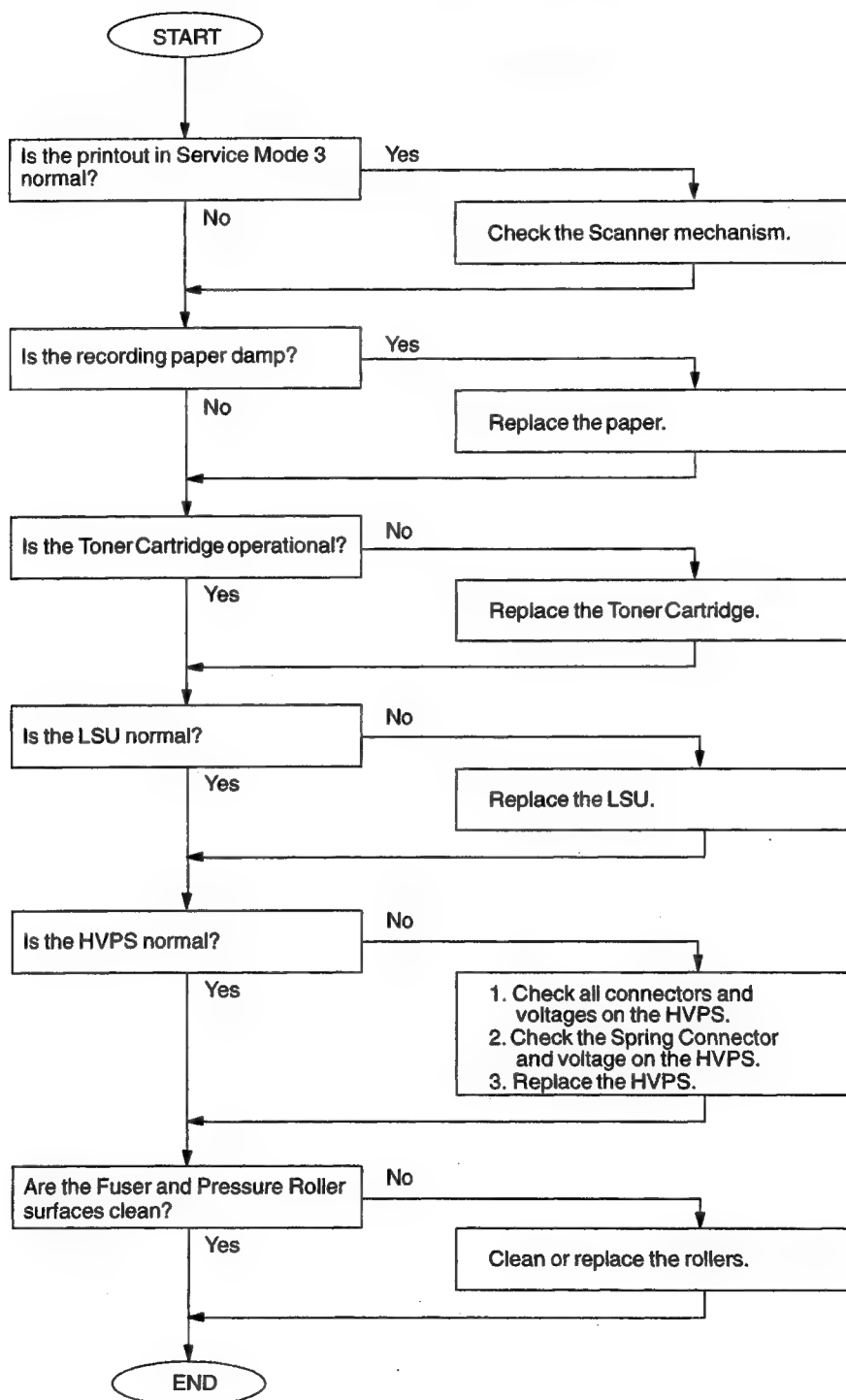
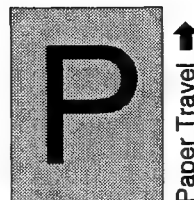




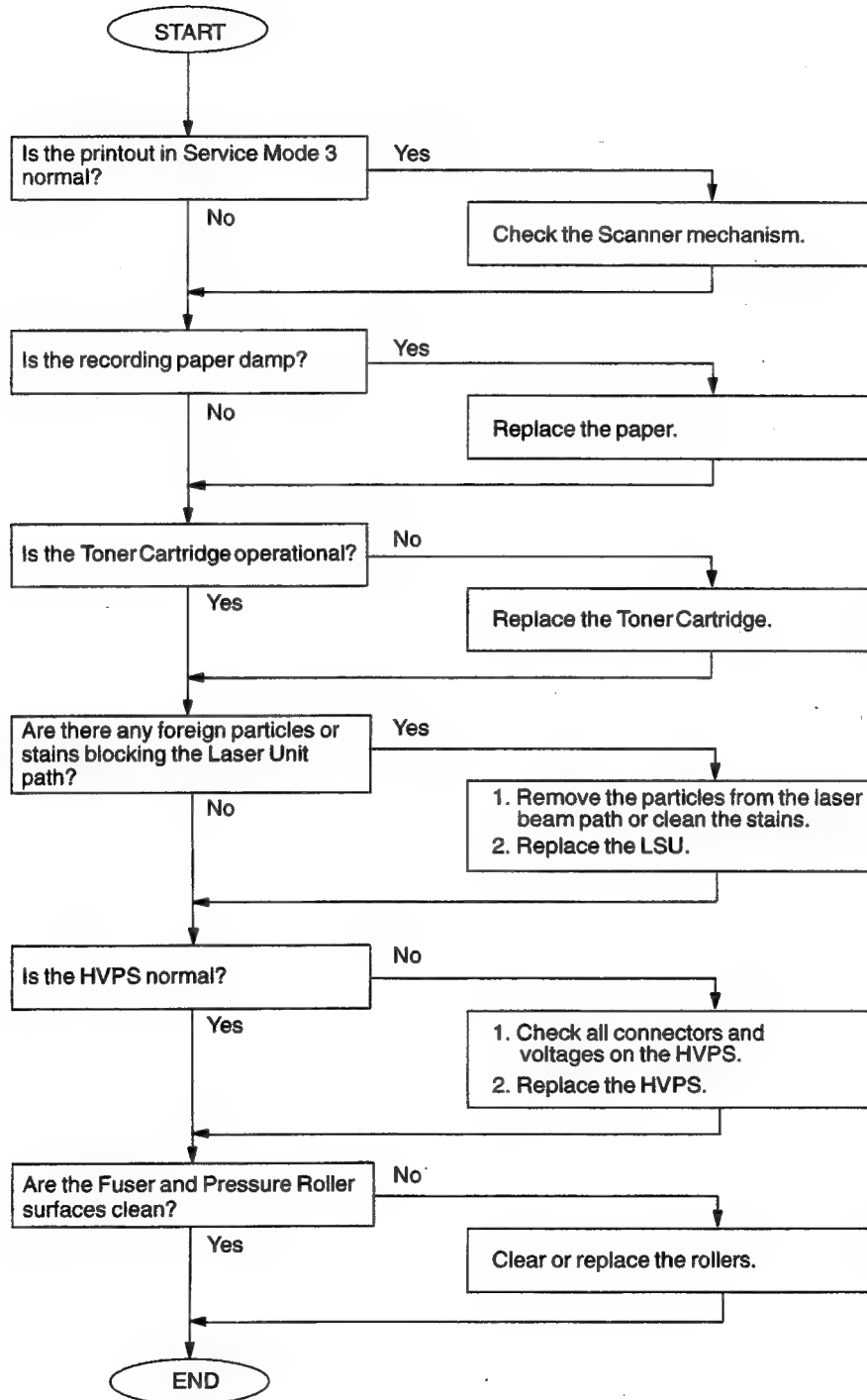
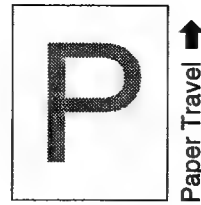
#### 4.4.6 Horizontal Dark Lines



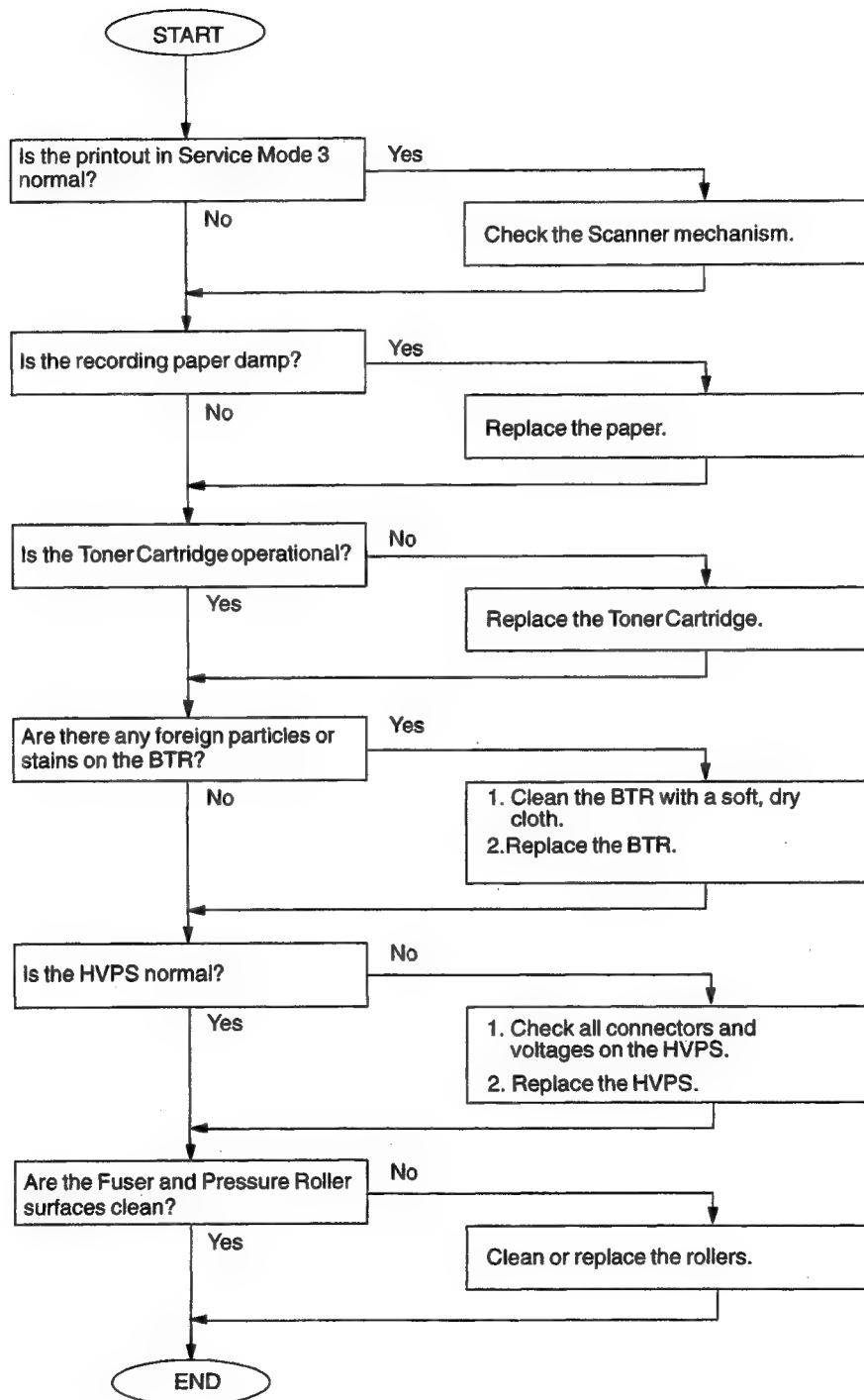
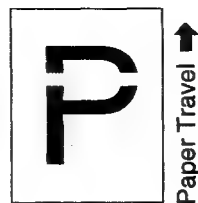
#### 4.4.7 Dark Background



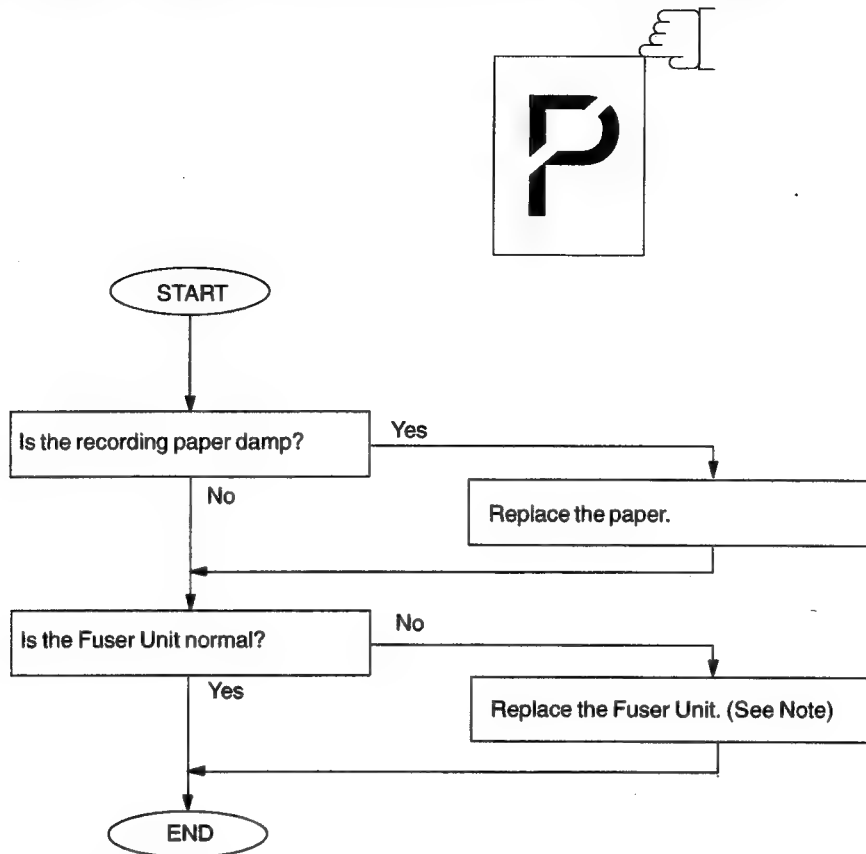
#### 4.4.8 Light Print



#### 4.4.9 Horizontal White Lines



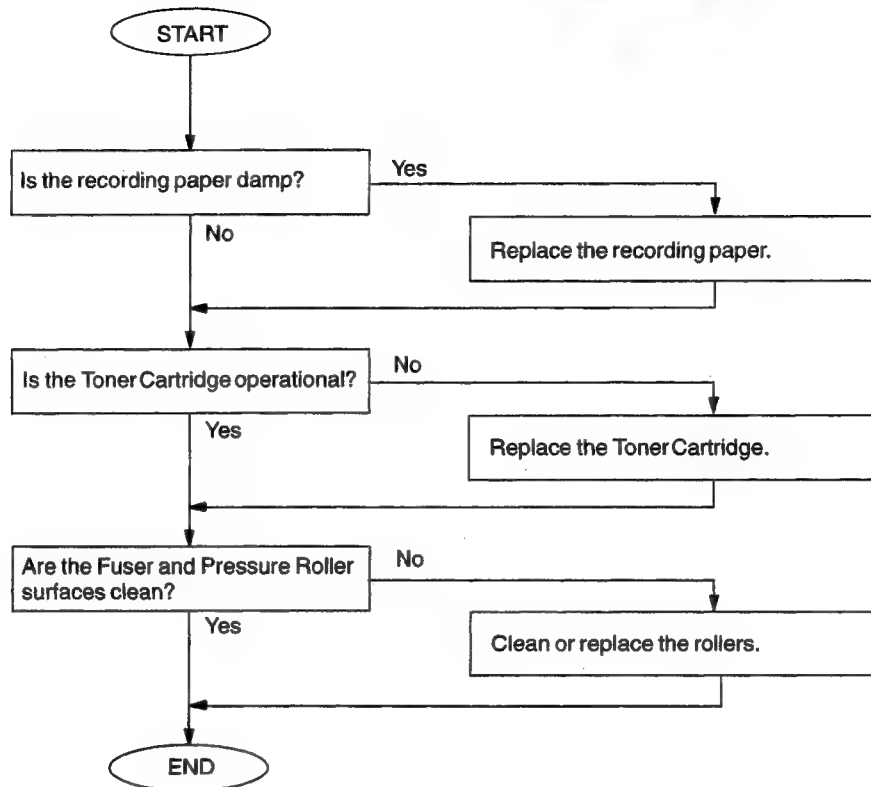
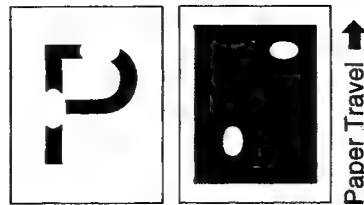
#### 4.4.10 Improper Fusing (Printed image does not bond to the paper)



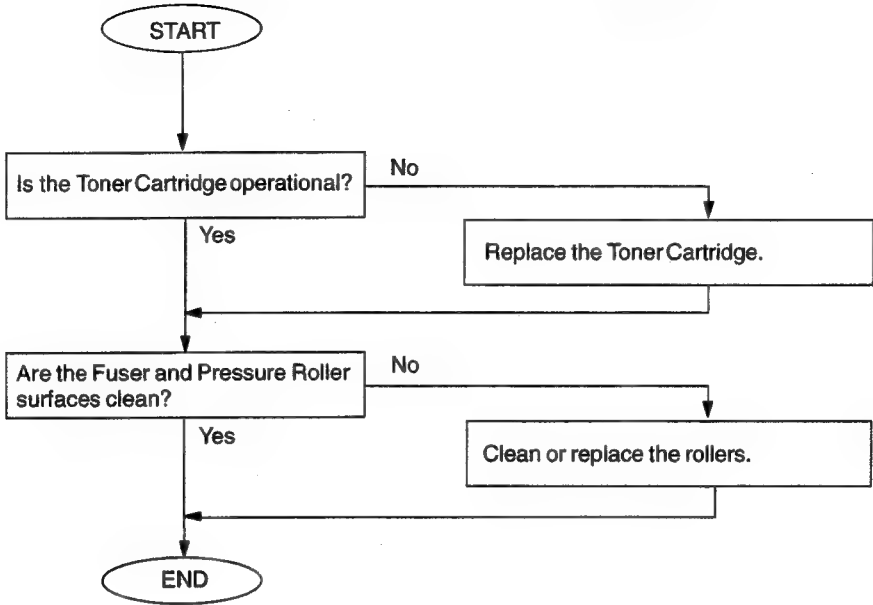
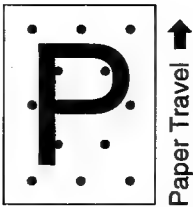
**Note:**

Replace the entire Fuser Unit when the Thermostat and / or the Thermistor becomes open-circuit.

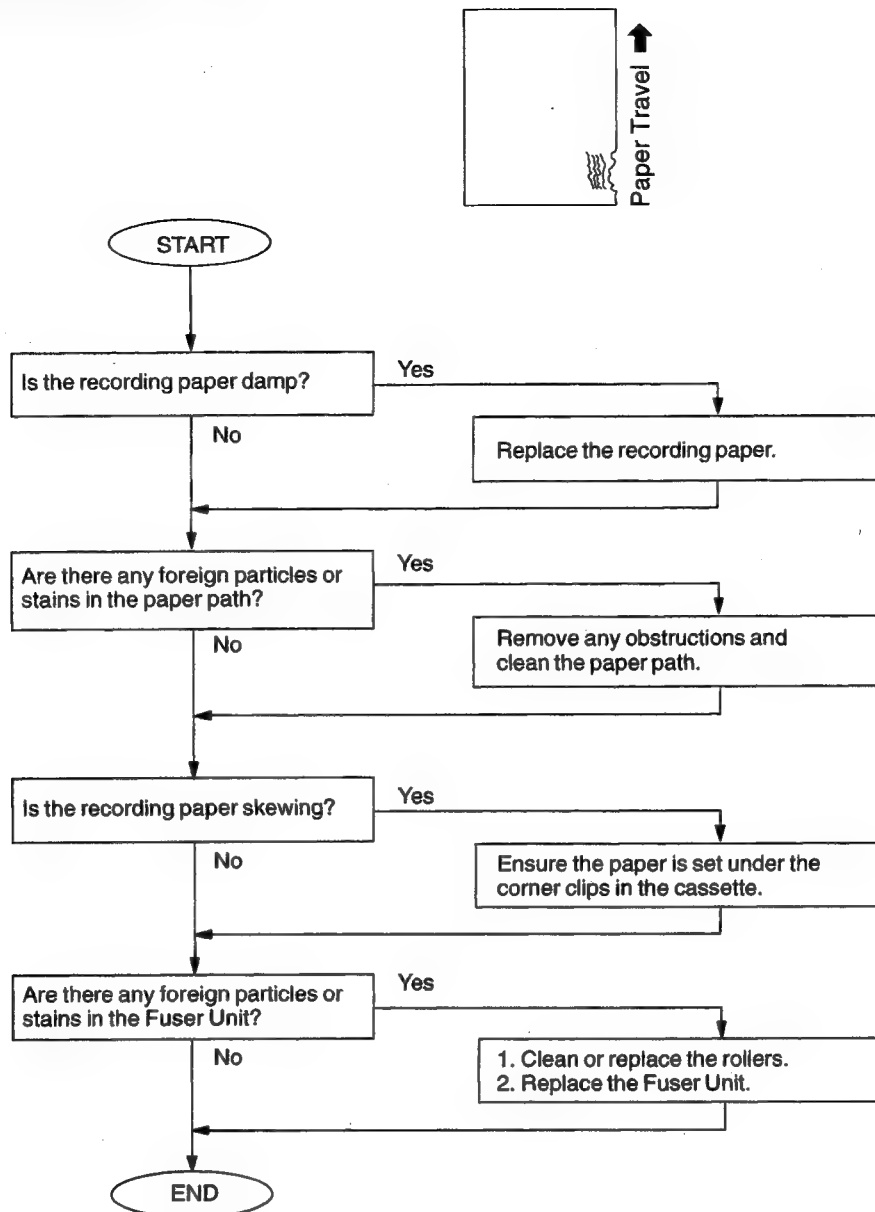
#### 4.4.11 Voids in Solid Areas



4.4.12 Black Dots

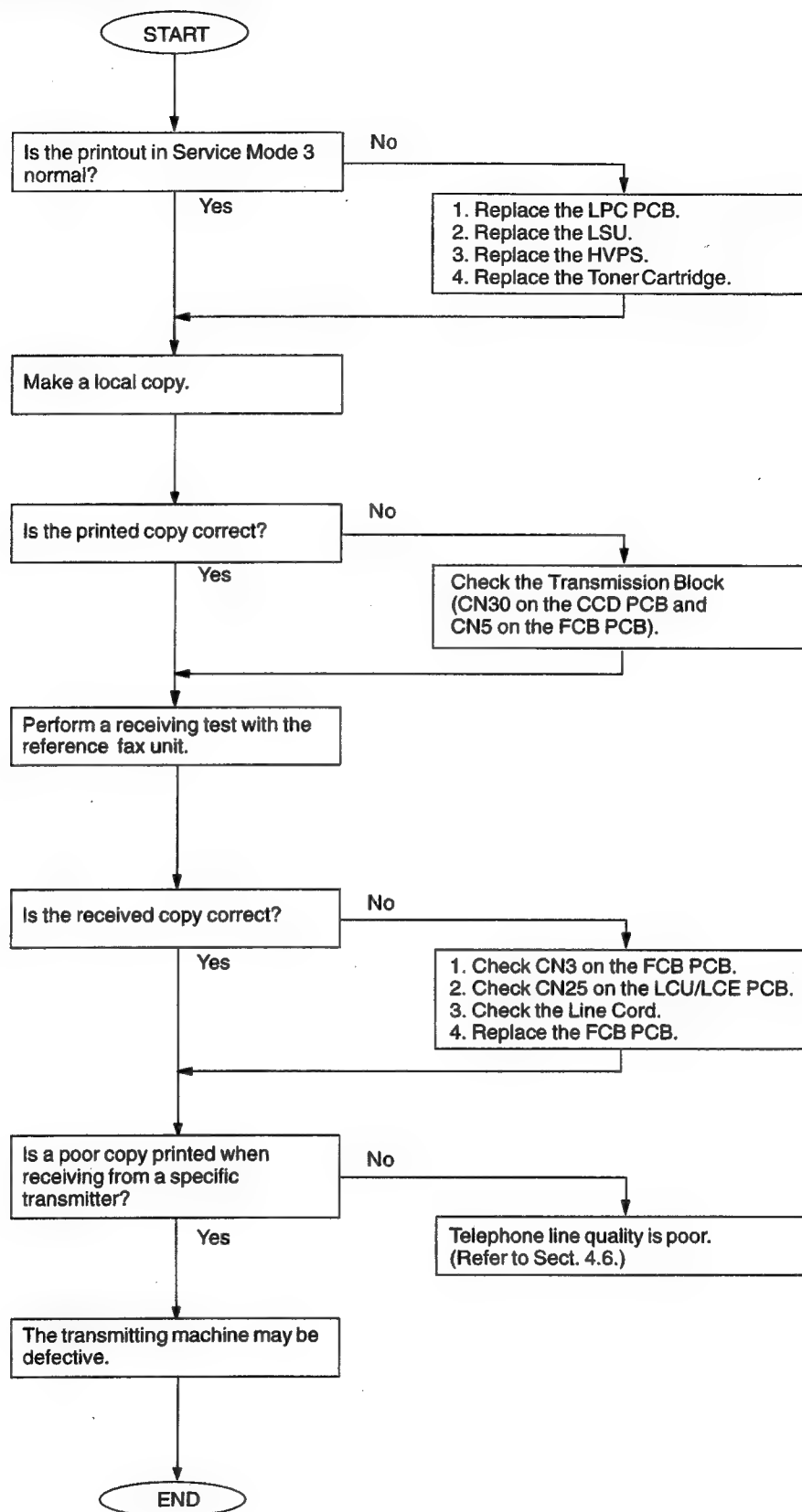


#### 4.4.13 Recording Paper Creases

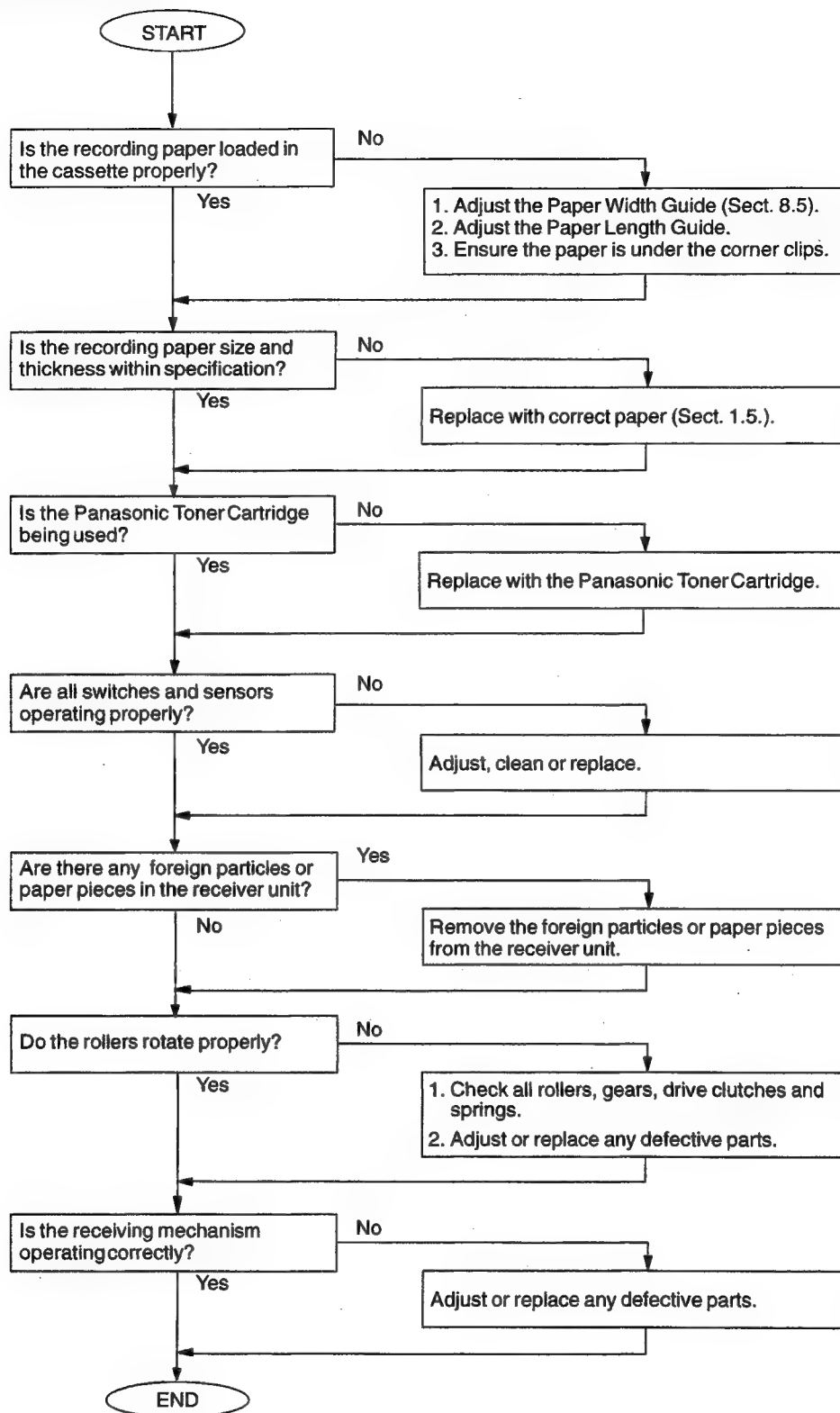




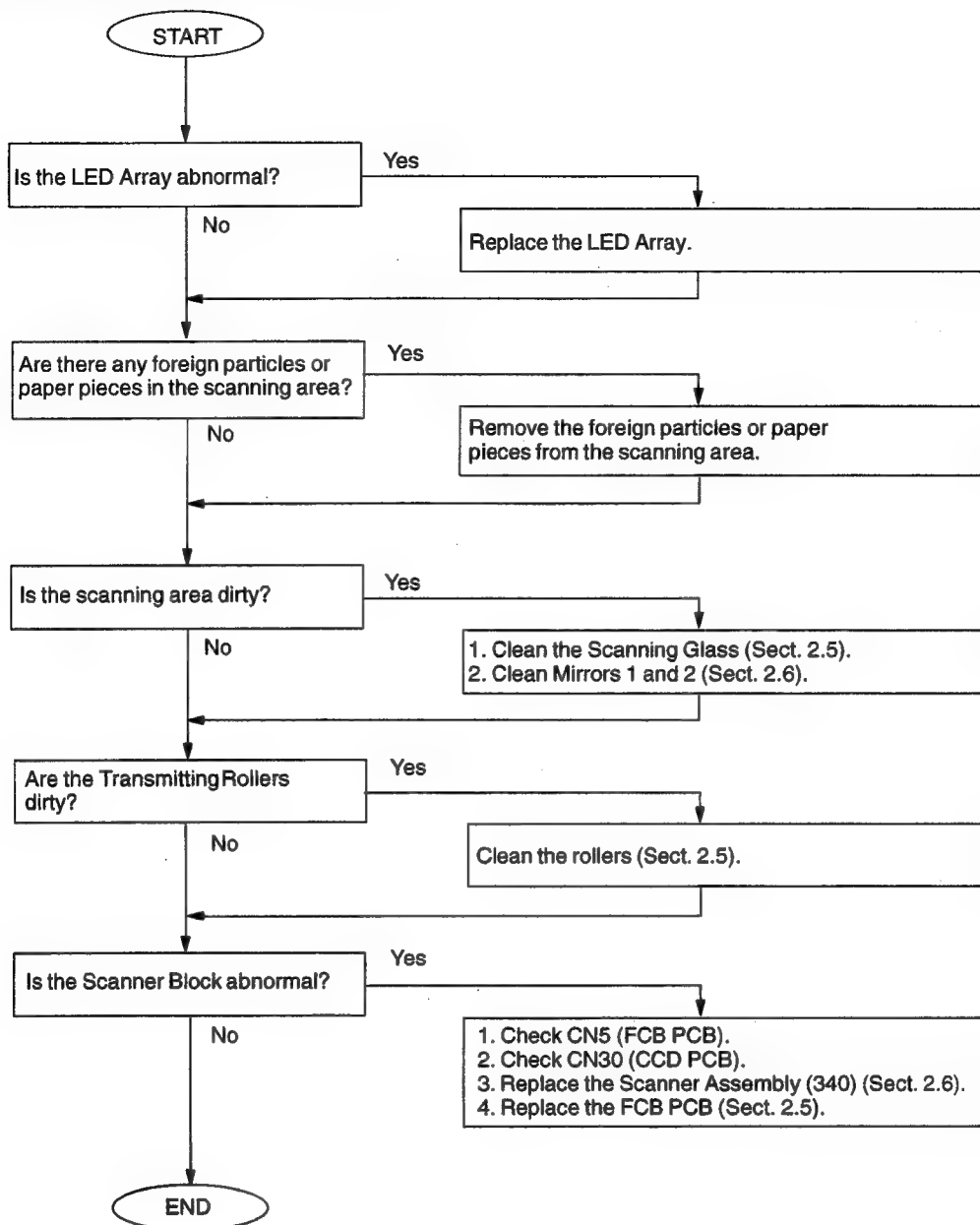
#### 4.4.14 Poor Printed Copy Quality



#### 4.4.15 Abnormal Printing

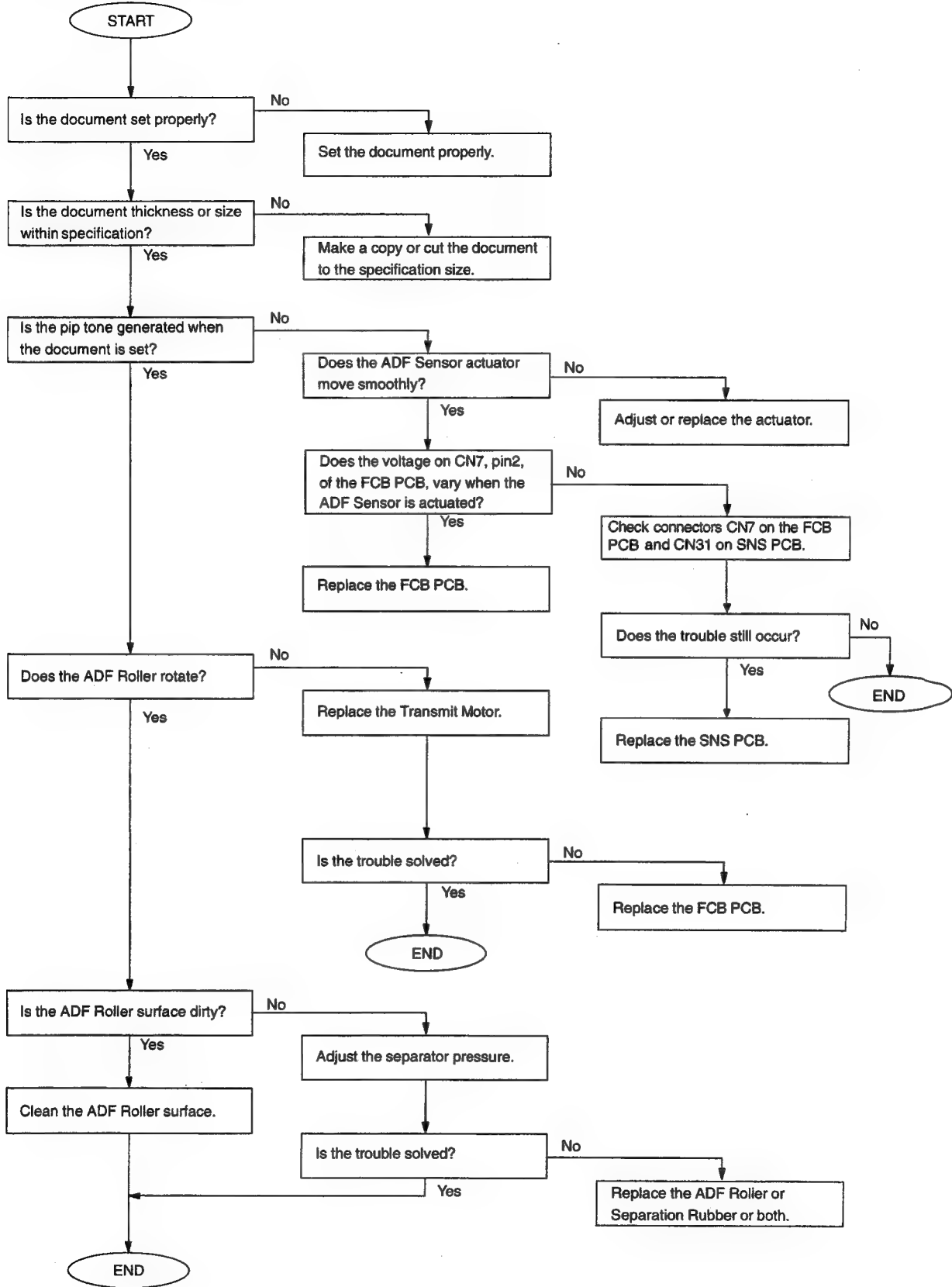


#### 4.4.16 Scanned Copy Quality Problems

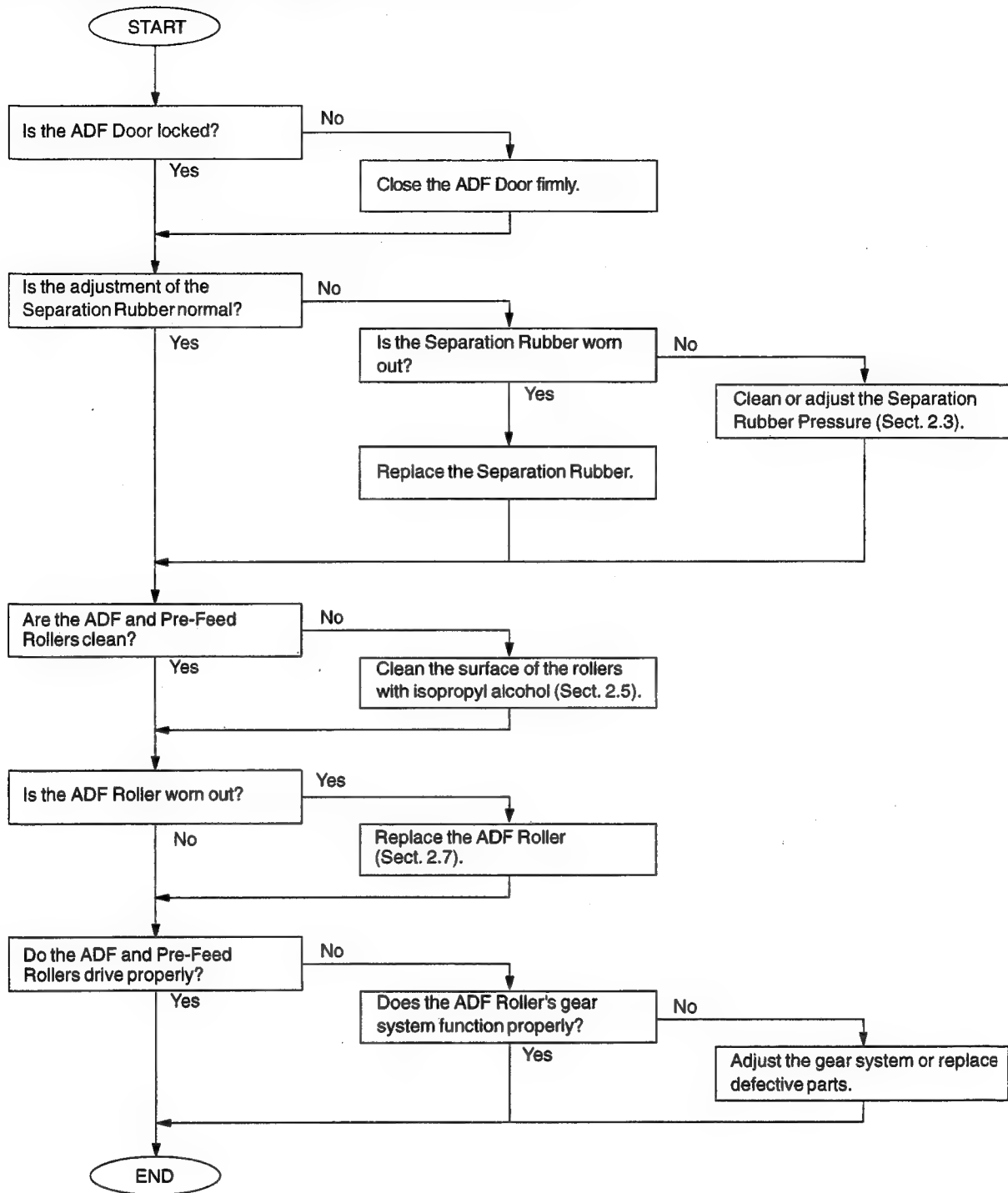


## 4.5 Document Feeder (ADF)

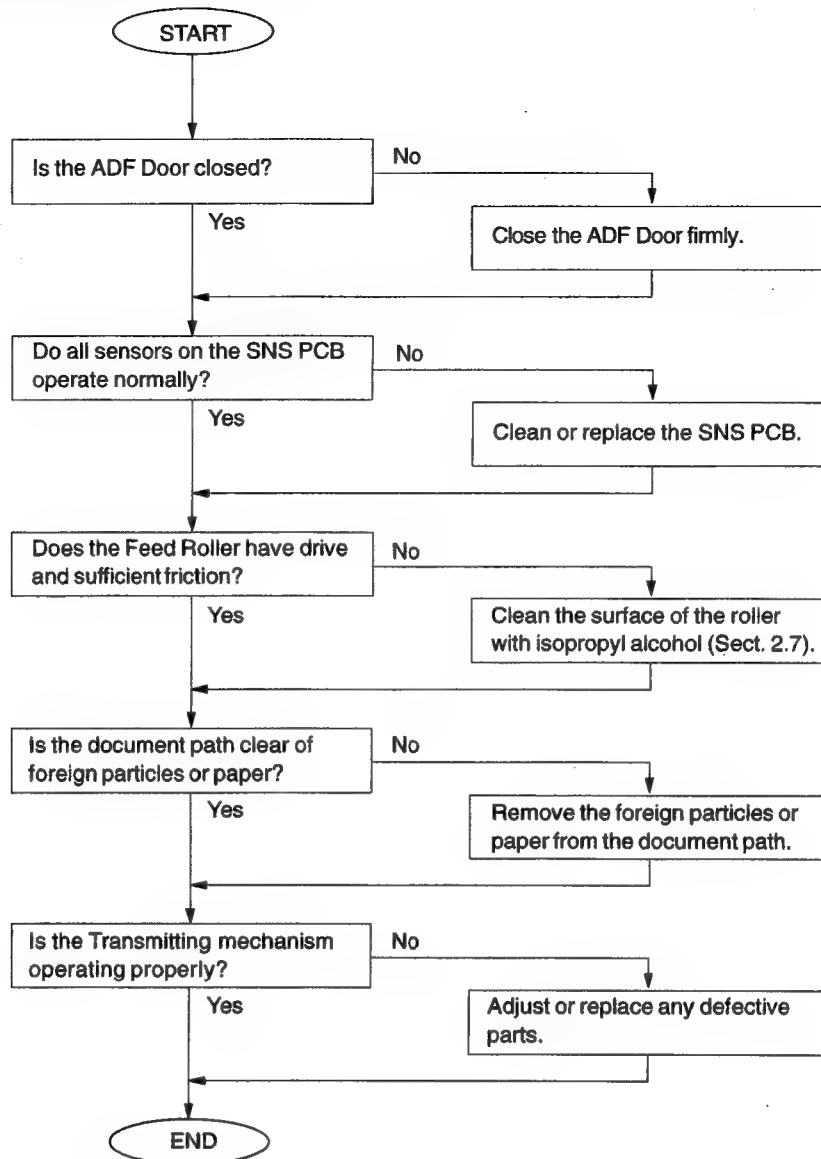
### 4.5.1 No Document Feed



#### 4.5.2 Document does not feed or Multiple feeds



### 4.5.3 Document Jam (030) or Skewing

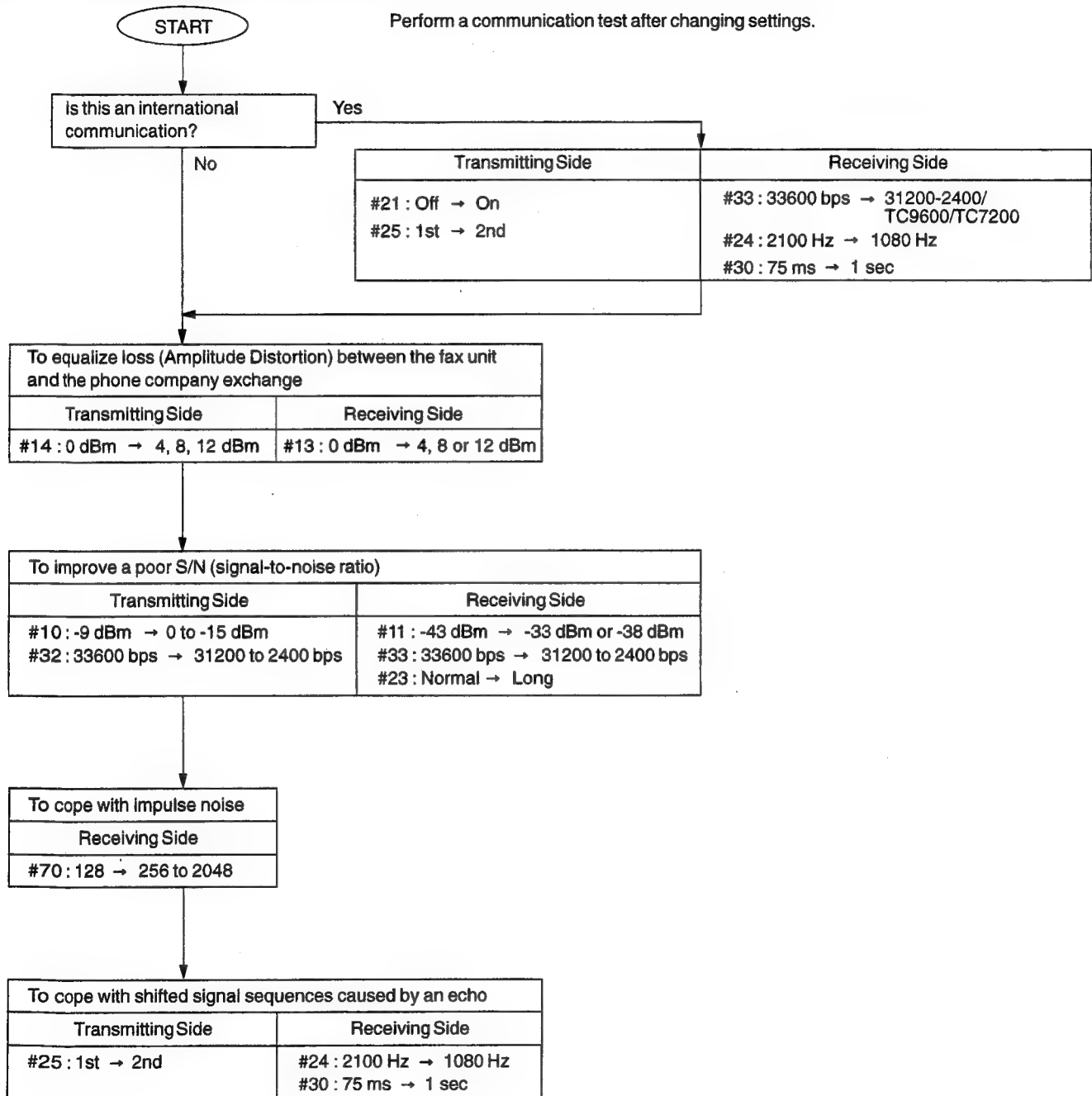


## 4.6 Communications

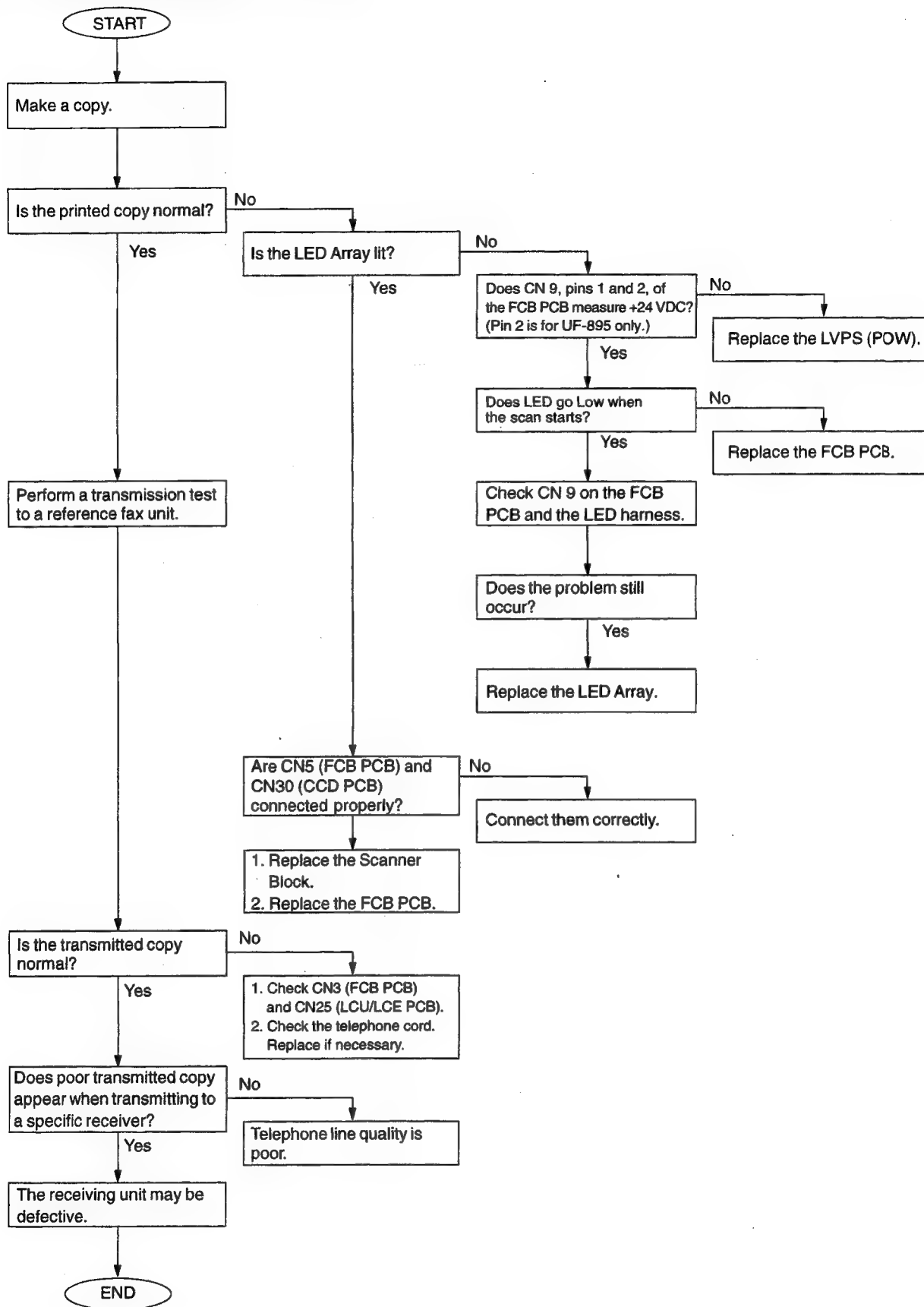
This section explains general troubleshooting procedures for the 400 series of Information Codes. These errors are primarily caused by poor telephone line quality (loss, noise, echo, etc.). This unit is furnished with Service Mode 1 to assist in troubleshooting line quality problems.

It is suggested that both the transmitting unit and receiving unit be adjusted. This section gives relevant parameters in Service Mode 1 for the transmitting and receiving sides. If no improvement is realized after the parameters are adjusted, it is recommended that the parameters be returned to the default settings.

### 4.6.1 Communication Trouble

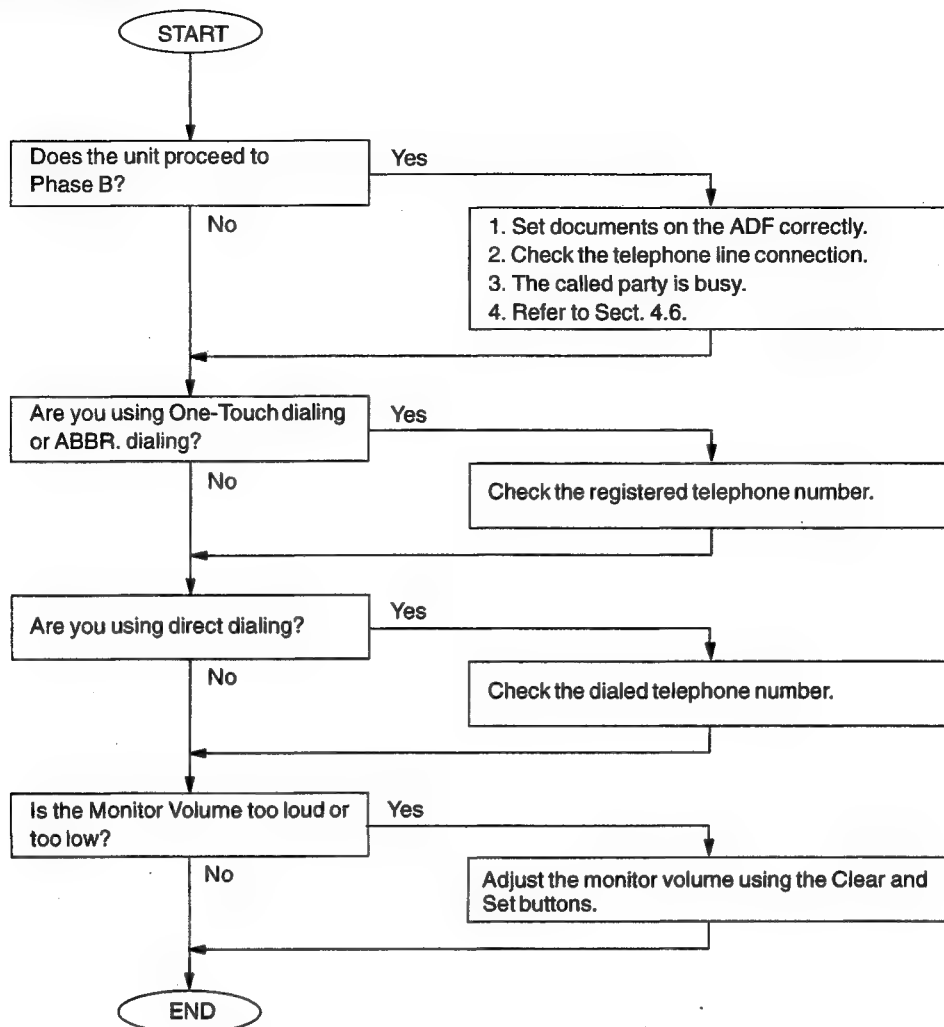


## 4.6.2 Poor Transmitted Copy Quality

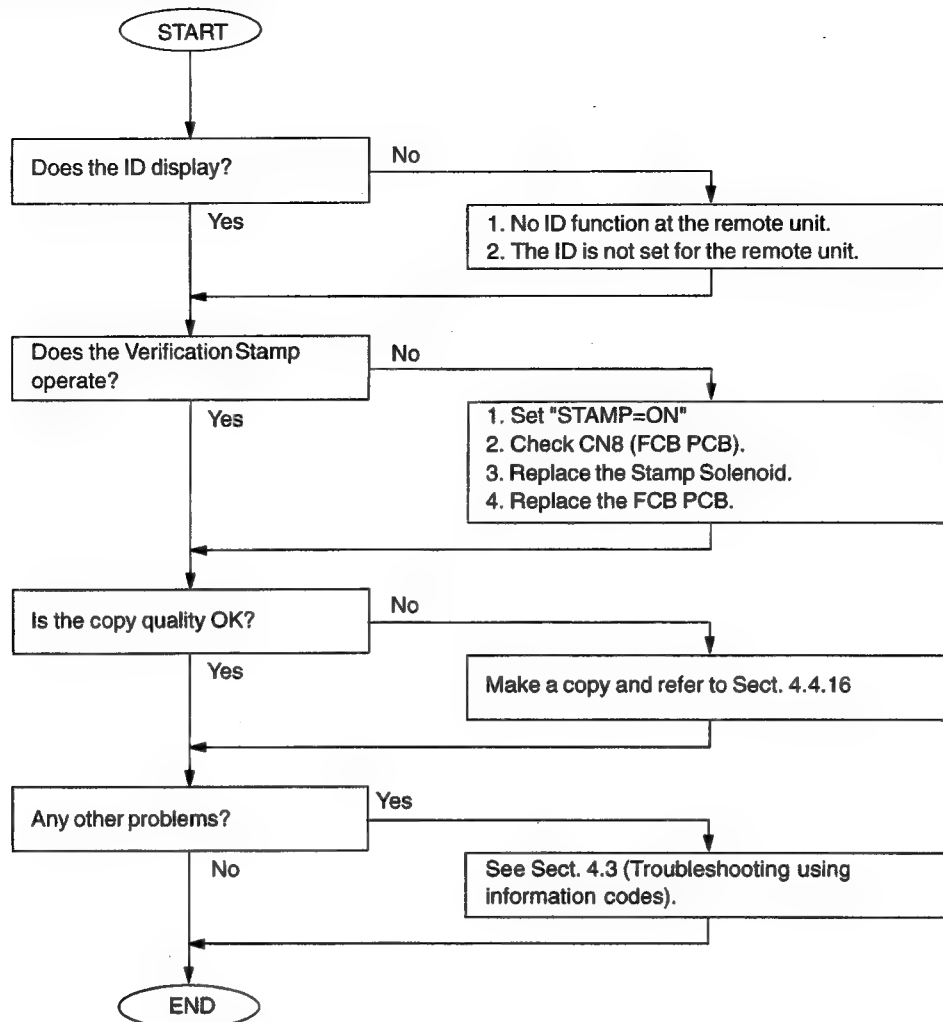




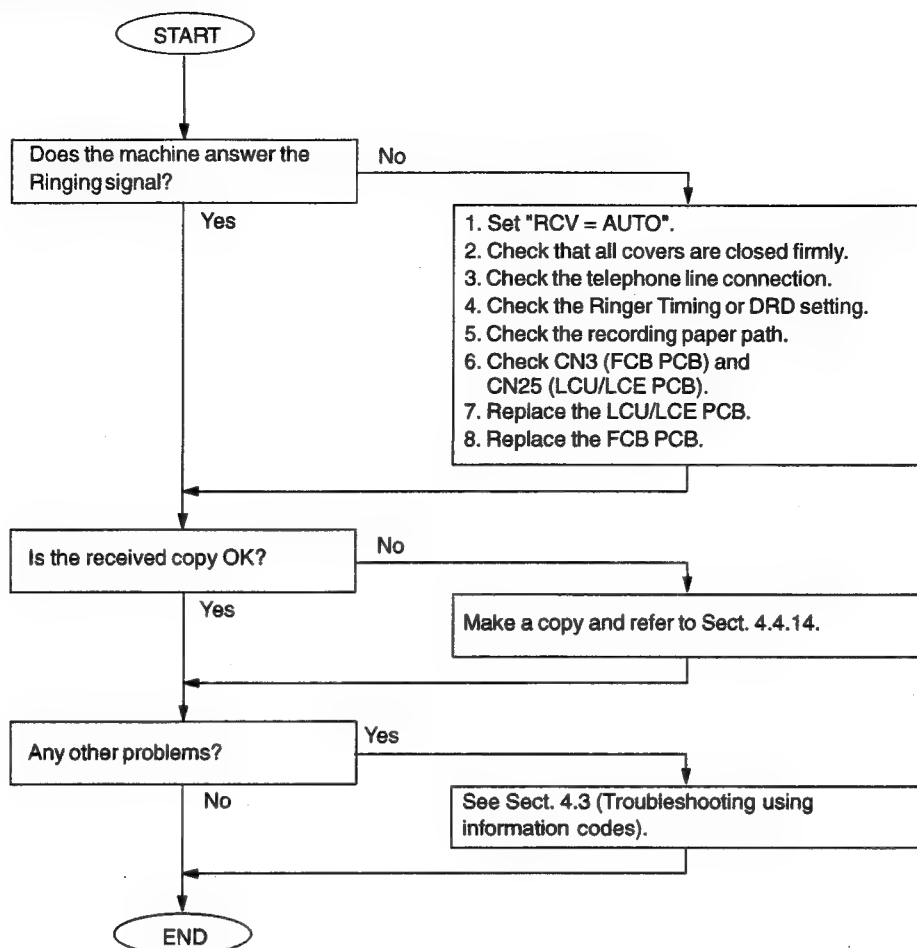
### 4.6.3 Dialing Problems



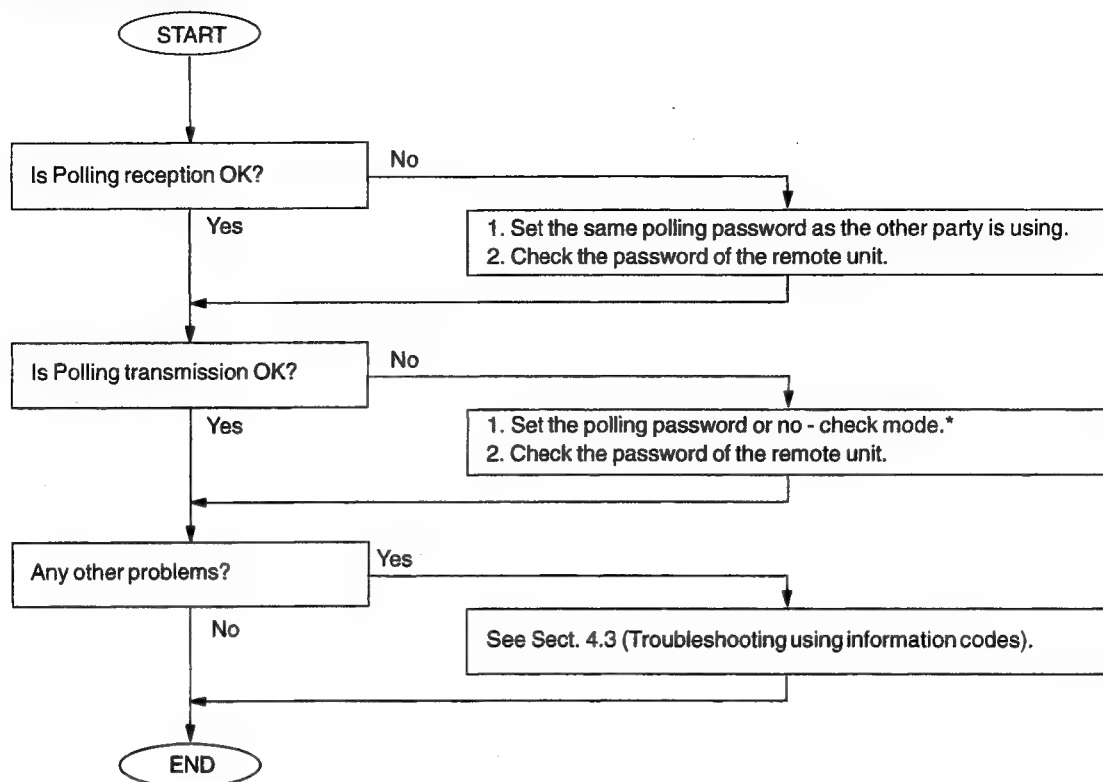
#### 4.6.4 Transmission Problems



## 4.6.5 Reception Problems



#### 4.6.6 Polling Problems



**Note:**

No-check Mode means that password is not set.

## 4.7 Information Code Table

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
001	RCV COPY	C, D	Leading edge of the recording paper fails to reach the Timing Sensor. (1st cassette)	Recording paper jam. Timing Sensor abnormal.
002	RCV COPY	C, D	Leading edge of the recording paper fails to reach the Timing Sensor. (2nd cassette)	Recording paper jam. Timing Sensor abnormal.
003	RCV COPY	C, D	Leading edge of the recording paper fails to reach the Timing Sensor. (3rd cassette)	Recording paper jam. Timing Sensor abnormal.
007	RCV COPY	C, D	1. Leading edge of the recording paper fails to reach the Eject Sensor. 2. Recording paper has not completely passed the Eject Sensor.	Recording paper jam. Eject Sensor abnormal.
008	RCV COPY	C, D	Paper Cassette was opened while the recording paper was feeding.	Recording paper jam.
010	RCV COPY	B, C	No recording paper.	No recording paper or paper is not set properly. No paper Sensor is defective.
011	STANDBY	-	Paper Cassette is not installed properly.	
012	RCV	C, D	The length of the received document is over 380mm. (Used in France only)	
021	STANDBY RX COPY	B, C, D	Fan is abnormal. Thermister is abnormal. Fuser Control is abnormal.	Defective LPC PCB. Defective Fuser Unit, LVPS or Fan.
026	-	-	The backup battery is getting weak.	
030	XMT	B	Read Point Sensor does not go ON within 10 seconds after the document starts feeding.	Document is not set properly. Defective Read Point Sensor.
031	XMT COPY	C	Transmitting document was longer than 2,000mm (or 78.7 in).	The document may jam. Defective Read Point Sensor.
033	-	-	Sub CPU system error.	Defective FCB PCB.
041	STANDBY RX COPY	B, C, D	Out of toner.	No toner. Defective Toner Sensor.
043	STANDBY RX COPY	B, C, D	Low Toner.	Toner is getting low. Defective Toner Sensor.
045	STANDBY	-	No Toner Cartridge.	Toner cartridge has not been installed. Defective Toner Sensor (Cartridge Sensor).
051	RCV COPY	-	Printer Motor is abnormal.	Connector not properly connected. Defective Printer Motor. Defective LPC PCB.
054	STANDBY RX COPY	-	HSYNC is abnormal. Laser motor is abnormal.	Defective Laser Unit.
055	STANDBY RX COPY	-	No response of LBP CPU on LPC.	Defective LPC PCB. Defective FCB PCB.
058	-	A	Interface error occurred with the 500-sheet optional cassette feeder.	Defective CST3 PCB.
059	RCV COPY	C	Interface error occurred between FCB PCB and LPC PCB.	Defective LPC PCB. Defective FCB PCB.
060	-	A	Printer Cover is open.	Cover is not firmly closed. Connectors are not firmly connected.
061	-	A	ADF Door is open.	Cover is not firmly closed. Connectors are not firmly connected.
063	-	A	Jam Access Cover is open.	Cover on the optional 2nd cassette is not closed.
064	-	A	Jam Access Cover is open.	Cover on the optional 3rd cassette is not closed.
200	RCV	C	Decoding process is not completed at the end of phase C.	Defective FCB PCB.
212	XMT RCV	A-E	Interface error occurred between the CPU and modem.	Modem is defective. (FCB PCB) Software problem occurred. (FCB PCB)
301	XMT RCV		System fault.	Software problem occurred. (FCB PCB)
331	XMT	C	8-minutes timer error. (Germany only)	

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
400	XMT	B	T1 timer (35±5 sec) elapsed without detecting 300 bps signal.	Wrong number is dialed and the START button is pushed. Telephone line is disconnected while dialing. FCB PCB (Modem) or LCU/LCE PCB is defective. Receiver is defective. (It may only be transmitting CED)
401	XMT	B	DCN was returned from receiver while transmitter is waiting for CFR or FTT.	Your machine's ID Number is not programmed. Possible incompatibility or incorrect Password (Password Reception, Selective Receive). Mailbox is full.
402	XMT	B	DCN was returned from receiver while transmitter is waiting for NSF/DIS.	Receiver working in non-CCITT mode only. (Possible incompatibility)
403	RCV(Polling)	B	Transmitter had no polling function.	"POLLED=ON" (polling XMT ready) is not set at the transmitter. Document to be transmitted is not placed at the transmitter.
404	XMT	B	Transmitter sent NSS (or DCS) followed by TCF three times, but the receiver did not respond. (CFR or FTT is usually returned)	Receiver is defective. (Modem, LCU/LCE PCB, etc.) FCB PCB or LCU/LCE PCB is defective. Receiver disconnects line during first NSS (or DCS) is transmitted.
405	XMT	B	Transmitter received FTT after it transmitted TCF at 2400bps. Received RTN after communicating at 2400 bps.	Line quality is poor. (TCF is damaged due to line noise) Receiver is defective. (Modem, LCU/LCE PCB, etc.) FCB PCB or LCU/LCE PCB is defective.
406	RCV(Pass- word Comm.)	B	XMT-Password mismatched. RCV-Password mismatched. Selective RCV Incomplete.	XMT, RCV password does not match. Last 4 digits of TSI does not match with the last 4 digits of ONE-TOUCH, ABBR telephone number.
407	XMT	D	Transmitter received no response after it transmitted post message, such as EOP, MPS, EOM, etc...or received DCN.	Receiver is defective. (No paper, paper jamming, etc.) Receiver ceased receiving because of excessive error. (Line quality is poor) FCB PCB (Modem) or LCU/LCE PCB is defective.
408	XMT	D	Transmitter received RTN after it transmitted EOP, MPS, or EOM.	Receiver receives data with error. (Line quality is poor) Receiver is defective. (Modem, LCU/LCE, etc.) FCB PCB or LCU/LCE PCB are defective.
409	XMT	D	Transmitter receives PIN after it transmitted a post message, such as EOP, MPS, EOM, etc.	Receiver receives data with error due to poor line quality, and receiving operator requests voice contact. Receiver is defective. (Modem, LCU/LCE, etc.) FCB PCB or LCU/LCE PCB are defective.
410	RCV	D	Received DCN while waiting for post command. (EOP, MPS, EOM, etc.)	Interface or line is faulty. Transmitter is defective.
411	RCV(Polling)	B	Received DCN after transmitting NSC.	Transmitter is not ready for polling communication. Password does not match between transmitter and receiver.
412	G3 RX	B, D	No response within 12 seconds in NSS/DCS/ MPS wait state. (After transmitting FTT)	Transmitter is defective. FCB PCB is defective.
414	RCV(Polling)	B	No response received after transmitting 3rd NSC.	Password does not match between transmitter and receiver. Transmitter is defective. (No document, document jam, etc.)
415	XMT(Polling)	B	Remote side attempted to receive message from your machine in polling communication. Inform the remote side that your machine does not have the polling transmission feature.	
416	RCV	D	Receiver did not detect post command, such as EOP, MPS, EOM, etc.	Transmitter is defective. Line quality is poor. (RTC signal is distorted due to line noise) FCB PCB or LCU/LCE PCB are defective.
417	RCV	C	Receiver returned RTN in response to post message.	Line quality is poor. (There are excessive errors in received data) FCB PCB or LCU/LCE PCB are defective.

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
418	RCV	C	Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact)	Line quality is poor. (There are excessive errors in received data) FCB PCB or LCU/LCE PCB are defective.
420	RCV	B	T1 timer (35 sec.) elapsed without detecting 300 bps signal.	There is wrong incoming call. (non-facsimile communication) Transmitter is defective. FCB PCB or LCU/LCE PCB is defective.
421	RCV	B	Busy Tone is detected after sending NSF Signal.	Remote station disconnects the line. Wrong number is dialed.
422	XMT	B	Content of NSF (or DIS) or NSC (or DTC) was invalid.	There is an incompatibility.
427	G3 RCV	B	DCN received to NSF/CSI/DIS transmitted.	The interface is incompatible.
433	XMT RCV	B, D	T.30 Protocol abnormal.	Defective remote station.
434	XMT or RCV	B	CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.	Remote unit is defective. FCB PCB or LCU/LCE PCB is defective.
436	G3 RX	C	DCN received after transmitting FTT.	Transmitter is defective or incompatible. Line quality is poor.
456	RCV	B	Received relay transfer request or confidential document to distribute to a end receiving station or all confidential mailboxes are used.	
457	RELAYXMT CONF.XMT/ POLL	B	Remote unit does not have Relayed XMT or Confidential Comm. capability.	
459	RCV	C	Failed training in Phase C.	Line quality is poor. (Training signal is distorted due to line noise) FCB PCB or LCU/LCE PCB are defective.
490	RCV	C	Sum of error line exceeded the limit (Parameter 70) by 64 lines.	Line quality is poor. FCB PCB or LCU/LCE PCB are defective.
494	RCV	C	Interval between two EOLs was more than 10 sec. when receiver received message data.	Transmitter is defective. Line quality is poor. (EOL is damaged due to line noise) FCB PCB or LCU/LCE PCB are defective.
495	XMT/RCV	C	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. FCB PCB or LCU/LCE PCB are defective.
496	XMT	C	CS of modem is not able to turn ON.	FCB PCB is defective.
501	XMT/ RCV(V.34)	B	Remote unit does not have Modem compatibility.	
502	XMT/ RCV(V.34)	B, C, D	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. FCB PCB or LCU/LCE PCB are defective.
503	XMT/ RCV(V.34)	B, C, D	CS of modem is not able to turn ON during training.	FCB PCB is defective. Line is disconnected.
504	RCV/V.34 (Polling)	B	Polling is rejected from the remote station.	No polling document is set.
505	XMT/V.34 (Polling)	B	Polling XMT is rejected.	No polling document is set.
540	XMT ECM	B	No response after transmitting 3rd CTC or DCN received.	Incompatible interface.
541	XMT ECM	D	No response after transmitting 3rd EOR or received DCN.	Line is faulty. LCU/LCE PCB abnormal.
542	XMT ECM	D	No response to the 3rd RR transmitted or received DCN.	Remote unit is abnormal.
543	XMT ECM	D	T5 timer (60 sec.) elapsed without MCF.	Remote unit is abnormal.
544	XMT ECM	D	Stopped Transmission after EOR Transmission.	Line is faulty. LCU/LCE PCB abnormal.
550	RCV ECM	C	Timer between frames in phase C has elapsed.	Defective remote station.
554	RCV ECM	D	Transmitted ERR after receiving EOR.	Faulty line.
555	RCV ECM	D	Transmitted PIN after receiving EOR.	Faulty line and Operator Call requested by RX side.
570	RCV	B	Password or machine code did not match during remote diagnostic communication.	
571	XMT	B	Remote unit did not have the remote diagnostic function.	
580	XMT	B	Sub-address transmission to a unit that has their DIS bit 49 (NSF bit 155) OFF.	Sub-address transmission to a unit that has no Sub-address function.

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
581	XMT	B	Sub-address Password transmission to a unit that has their DIS bit 50 (NSF bit 156) OFF.	Sub-address transmission to a unit that has no Sub-address function.
601	XMT		ADF Door was opened during ADF transmission.	
623	XMT	A	No document was in the ADF. (Built-in dialer engaged)	Operator removed the document from the ADF after dialing was completed. Document is not set properly in the ADF.
630	XMT or RCV(Polling)	B	Redial count over.	No dial tone detected. Sensor dial tone is not detected. (country dependent) Busy tone is detected. (country dependent) T1 timer (35±5 sec) elapsed without a signal from the receiver.
631	XMT	A	"STOP" button was pressed during Auto Dialing.	
634	XMT		Redial count over with no response or busy tone was not detected. Note: U.S.A. models will redial only once if busy tone is not detected. Canadian models will not redial when the communication fails due to no response from the called station.	
638	XMT		Power turned off with applicable data in memory or during communication.	Power switched off. Power failure occurred.
800	Relay Comm.		The machine was requested to relay a document but has no Relay Hub capability.	
814	Conf. XMT Conf. Polling Relay Comm.		The remote station does not have Relay XMT nor Confidential Communication capability.	
815	Conf. RCV		Mailbox is full.	
816	Conf. Polled		The received Polling Password did not match.	
825	Conf. RCV Conf. Polled		Parameter settings of the remote station are not properly set.	
870	MEM XMT Multi-Copy		Memory overflow occurred while storing documents into memory.	



## 4.8 Diagnostic Codes

The 13-digit Diagnostic Code is provided for the service engineer to analyze how the communication was performed. The code is recorded on the Journal.

### Journal Example

***** -JOURNAL- ***** DATE 12-JAN-1999 ***** TIME 09:39*****												
NO.	COMM.	PAGES	FILE	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC			
01	OK	001	129	00:00:42	XMT	123 456 789	12-JAN	01:55	C8649003C0000			
									1st digit		13th digit	
-----												
- PANASONIC PANAFAX UF-895												
***** - PANAFAX UF -895- ***** -12345678901234567890- *****												

### 1st Digit: Manufacturer Code

:- Not used/defined

Data	Definition			
	Manufacturer Code			
0				
1	Casio			
2	Canon			
3	Sanyo			
4	Sharp			
5	Tamura			
6	Toshiba			
7	NEC			
8	Oki			
9	Hitachi			
A	Xerox			
B	Fujitsu			
C	Matsushita			
D	Mitsubishi			
E	Murata			
F	Ricoh			

### 2nd Digit

:- Not used/defined

Data	Definition			
	ID (TSI, CSI, CIG)	RTN	DCN	STOP Button
0	-	-	-	-
1	Received	-	-	-
2	-	Received	-	-
3	Received	Received	-	-
4	-	-	Received	-
5	Received	-	Received	-
6	-	Received	Received	-
7	Received	Received	Received	-
8	-	-	-	Pressed
9	Received	-	-	Pressed
A	-	Received	-	Pressed
B	Received	Received	-	Pressed
C	-	-	Received	Pressed
D	Received	-	Received	Pressed
E	-	Received	Received	Pressed
F	Received	Received	Received	Pressed

**3rd Digit**

-: Not used/defined

Data	Definition			
	Resolution (dpi)	Paper Width		
0	-	A4		
1	S-Fine	A4		
2	400 x 400	A4		
3	300 x 300	A4		
4	-	B4		
5	S-Fine	B4		
6	400 x 400	B4		
7	300 x 300	B4		
8	-	-		
9	-	-		
A	-	-		
B	-	-		
C	-	A3		
D	S-Fine	A3		
E	400 x 400	A3		
F	300 x 300	A3		

**4th Digit**

-: Not used/defined

Data	Definition			
	Scanning Rate	Resolution		
0	20 ms/line	Std		
1	5 ms/line	Std		
2	10 ms/line	Std		
3	-	Std		
4	40 ms/line	Std		
5	-	Std		
6	-	Std		
7	0 ms/line	Std		
8	20 ms/line	Fine		
9	5 ms/line	Fine		
A	10 ms/line	Fine		
B	-	Fine		
C	40 ms/line	Fine		
D	-	Fine		
E	-	Fine		
F	0 ms/line	Fine		

**5th Digit**

-: Not used/defined

Data	Definition			
	Deferred Comm.	Dialing/RCV	Memory/Non-Memory	
0	-	Manual Communication	Non-Memory	
1	Used	Manual Communication	Non-Memory	
2	-	Auto Dialing	Non-Memory	
3	Used	Auto Dialing	Non-Memory	
4	-	Auto RCV	Non-Memory	
5	Used	Auto RCV	Non-Memory	
6	-	Remote RCV	Non-Memory	
7	Used	Remote RCV	Non-Memory	
8	-	Manual Communication	Memory	
9	Used	Manual Communication	Memory	
A	-	Auto Dialing	Memory	
B	Used	Auto Dialing	Memory	
C	-	Auto RCV	Memory	
D	Used	Auto RCV	Memory	
E	-	Remote RCV	Memory	
F	Used	Remote RCV	Memory	

### 6th Digit

:- Not used/defined

Data	Definition			
	Polling	XMT/RCV	Selective Comm.	Password Comm.
0	-	RCV	Off	Off
1	Yes	RCV	Off	Off
2	-	XMT	Off	Off
3	Yes	XMT	Off	Off
4	-	RCV	On	Off
5	Yes	RCV	On	Off
6	-	XMT	On	Off
7	Yes	XMT	On	Off
8	-	RCV	Off	On
9	Yes	RCV	Off	On
A	-	XMT	Off	On
B	Yes	XMT	Off	On
C	-	RCV	On	On
D	Yes	RCV	On	On
E	-	XMT	On	On
F	Yes	XMT	On	On

### 7th Digit

:- Not used/defined

Data	Definition			
	Sub-address Comm.	Confidential Comm.	Relayed Comm.	Turnaround Polling
0	-	-	-	-
1	Yes	-	-	-
2	-	Yes	-	-
3	Yes	Yes	-	-
4	-	-	Yes	-
5	Yes	-	Yes	-
6	-	Yes	Yes	-
7	Yes	Yes	Yes	-
8	-	-	-	Yes
9	Yes	-	-	Yes
A	-	Yes	-	Yes
B	Yes	Yes	-	Yes
C	-	-	Yes	Yes
D	Yes	-	Yes	Yes
E	-	Yes	Yes	Yes
F	Yes	Yes	Yes	Yes

### 8th Digit

:- Not used/defined

Data	Definition		
	Advanced Comm.	Cover Sheet XMT	
0	-	-	
1	Report XMT	-	
2	Check & Call	-	
3	-	-	
4	Memory Transfer	-	
5	-	-	
6	-	-	
7	-	-	
8	-	Yes	
9	Report XMT	Yes	
A	Check & Call	Yes	
B	-	Yes	
C	Memory Transfer	Yes	
D	-	Yes	
E	-	Yes	
F	-	Yes	

**9th Digit**

-: Not used/defined

Data	Definition			
	Short Protocol	Standard/ Non-Standard		
0	-	Standard		
1	-	Standard		
2	-	Standard		
3	-	Standard		
4	-	Standard		
5	-	Standard		
6	-	Standard		
7	-	Standard		
8	-	Non-Standard		
9	B	Non-Standard		
A	-	Non-Standard		
B	D	Non-Standard		
C	-	Non-Standard		
D	B	Non-Standard		
E	-	Non-Standard		
F	D	Non-Standard		

**10th Digit**

-: Not used/defined

Data	Definition			
	Coding	ECM		
0	MH	-		
1	MR	-		
2	MMR	-		
3	JBIG	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	MH	Yes		
9	MR	Yes		
A	MMR	Yes		
B	JBIG	Yes		
C	-	Yes		
D	-	Yes		
E	-	Yes		
F	-	Yes		

**11th Digit**

-: Not used/defined

Data	Definition			
	Symbol Rate (V.34)	V.34		
0	-	-		
1	-	-		
2	-	-		
3	-	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	2400 sr	Yes		
9	-	Yes		
A	2800 sr	Yes		
B	3000 sr	Yes		
C	3200 sr	Yes		
D	3429 sr	Yes		
E	-	Yes		
F	-	Yes		

**12th Digit**

-: Not used/defined

Data	Definition			
	Modem Speed	Modem Speed (V.34)		
0	2400 bps	-		
1	4800 bps	2400 bps		
2	7200 bps	4800 bps		
3	9600 bps	7200 bps		
4	TC 7200 bps	9600 bps		
5	TC 9600 bps	12000 bps		
6	12000 bps	14400 bps		
7	14400 bps	16800 bps		
8	-	19200 bps		
9	-	21600 bps		
A	-	24000 bps		
B	-	26400 bps		
C	-	28800 bps		
D	-	31200 bps		
E	-	33600 bps		
F	-	-		

**13th Digit**

-: Not used/defined

Data	Definition			
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

## 5 Service Modes

### 5.1 Service Mode Table

The following service modes are provided to assist you in setting operational functions of the unit and determining the condition of the unit.

No.	Service Mode	Description
1	Function Parameter Setting	Allows changes to the function parameters (the home position, etc...).
2	Not used	
3	Print Parameter List / Reports	Prints the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and Toner Order Form.
4	Modem Tests	Generates various binary tonal or DTMF signals, by the modem.
5	Diagnostic	Performs various hardware tests.
6	RAM Initialization	Initialize RAM and restore the default value of the function parameters.
7	LBP Service Mode	Changes the Printer Parameters (the home position, etc.).
8	Check & Call	Enters some information for Service Alert Report, Maintenance Alert Report and Toner Order Form.
9	System Maintenance	Update the firmware, backup the parameter settings.

## 5.2 Service Mode 1 (Function Parameter Setting)

Use the following procedure to change the function parameters.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V ^
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V ^
4	Press "1".	PARAMETER (000-199) ENTER PARAMETER #_
5	Enter the Function Parameter Number. Ex: Changing the "ALARM STATUS" -- Enter "001" and press [SET].	PARAMETER #001 ALARM STATUS?
6	Press "START".	ALARM STATUS:Timer 1:OFF 2:Tmr 3:CONST
7	Enter the new setting value. Ex: Enter "3" for Constant.	ALARM STATUS:Const. 1:OFF 2:Tmr 3:CONST
8	Press "START". The new value will be stored and the next parameter will be displayed.	PARAMETER #002 STOP COMM.JRNL?
9	Repeat steps 4 through 7 to change other Function Parameters or Press "STOP" twice to return to standby.	12-JAN-1999 15:00 00%

### Note

The following buttons provide these functions in the test mode:

"START" : The new setting value is stored in the machine.

"V" : Scroll the function parameter number down.

"^" : Scroll the function parameter number up.



Function Parameter Table			
No.	Parameter (see Note 3)	Selections	Function
000	MON/TEL DIAL	1 = Monitor 2 = TEL/DIAL	Selects whether the machine starts to TX automatically during On-Hook dialing. (Monitor: Start to TX after pressing START) (TEL/DIAL: Start to TX automatically)
001	ALARM STATUS	1 = OFF 2 = Timer (6 sec.) 3 = Constant	Selects the No Paper or No Toner alarm status. <b>OFF</b> : Alarm is disabled. <b>Timer</b> : Alarm will shut off after 6 seconds. <b>Constant</b> : Alarm will not stop until "STOP" is pressed or the error is cleared/corrected.
002	STOP COMM. JRNL	1 = Off 2 = On	Selects whether the machine prompts to print the COMM. Journal when the printout condition is set to INC and STOP is pressed during communication.
003	CONTINUOUS POLL (See Note 4)	1 = Off 2 = Stn (Tx only) 3 = Hub (Rx only)	Selects whether the Continuous Polling feature is enabled. <b>Stn</b> : Place the document(s) to be retrieved from a remote station and press [P8] key to store it into the memory. <b>Hub</b> : When the polling command is initiated, the machine will continuously poll documents from the remote stations until it is interrupted by pressing "STOP".
004	NUMERIC ID SET	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts and allows to set or change the Numeric ID.
005	Not Used		
006	ID DISPLAY	1 = Number (Numeric ID) 2 = Chara (Character ID)	Selects the priority of displaying the ID.
007	JNL COLUMN	1 = Preset station name 2 = Received ID	Selects the contents of the ID to display on the Journal.
008	MONITOR	1 = Off 2 = On	Selects whether the Monitor is ON/OFF for monitoring fax signals. (FOR SERVICE USE ONLY)
009	DC LOOP	1 = Off (Normal) 2 = On (Off Hook)	Selects a false Off Hook state for back to back communication test.
010	TX LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the TX signal output level, 0 to -15 dBm in 1 dBm steps. (Refer to Chapter 4.3)
011	RX LEVEL	1 = -43 dBm 2 = -38 dBm 3 = -33 dBm 4 = -48 dBm	Selects the receiving sensitivity of -33/-38/-43/-48 dBm. (Refer to Chapter 4.3)
012	DTMF LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the DTMF output level, 0 to -15 dBm in 1 dBm steps.
013	G3 RX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 reception mode, 0dB, 4dB, 8dB or 12dB.
014	G3 TX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 transmission mode, 0dB, 4dB, 8dB or 12dB.
015 ~ 016	Not Used		
017	TX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the transmission modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note</b> : This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 32.

Function Parameter Table			
No.	Parameter (see Note 3)	Selections	Function
018	RX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the reception modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note:</b> This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 33.
019	ITU-T V.34	1 = Off 2 = On 3 = Select	Selects whether the ITU-T V.34 is Off, On or Select. ( <b>Select:</b> Select whether the ITU-T V.34 is Off or On, when entering One-Touch/Abbreviated Dialing Numbers or Manual Number Dialing.)
020	ITU-T ECM	1 = Off (Invalid) 2 = On (Valid)	Select the ECM mode.
021	EP TONE	1 = Off (without EP Tone) 2 = On (with EP Tone)	Selects the echo protect tone on V.29 mode, On (add) or Off (Not add). (Used when Echo Suppression is disabled.)
022	SIGNAL INTERVAL	1 = 100 ms 2 = 200 ms 3 = 500 ms	Selects the time interval between the receiving signal and the transmitting signal.
023	TCF CHECK	1 = Normal (Short) 2 = Long	Selects the TCF check interval Long/Short
024	CED FREQUENCY	1 = 1080 Hz (non CCITT) 2 = 2100 Hz	Selects the CED frequency 2100/1080 Hz
025	COMM. START-UP	1 = 1 <sup>st</sup> response 2 = 2 <sup>nd</sup> response	Selects the communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)
026	NON-STANDARD	1 = Off (Invalid) 2 = On (Valid)	Selects own mode (Panafax mode).
027	SHORT PROTOCOL B	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.
028	SHORT PROTOCOL D	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.
029	REMOTE DIAGNOSTICS	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts the Remote Diagnostics from the service station.
030	CED & 300 bps	1 = 75 ms 2 = 1 sec	Selects the pause interval between the CED and the 300 bps signal. (Used when Echo Suppression is disabled.)
031	RTC = EOLx12	1 = Off (EOLx6) 2 = On (EOLx12)	Selects the RTC signal, EOLx6 or EOLx12.
032	V34 TX START	2400-33600bps	Selects the transmission modem start speed in V.34 communication, 33600-2400 bps.
033	V34 RX START	2400-33600bps	Selects the receiving modem start speed in V.34 communication, 33600-2400 bps.
034	V34 TX Symbol Rate	2400-3429sr	Selects the transmission symbol rate for V.34, 3429/3200/3000/2800/2400 sr. Press "v" or "^" to select the symbol rate.
035	V34 RX Symbol Rate	2400-3429sr	Selects receiving symbol rate for V.34, 3429/3429/3200/3000/2800/2400 sr. Press "v" or "^" to select the symbol rate.
036	Not Used		
037	PROTOCOL DISPLAY	1 = Off (not displayed) 2 = On (displayed)	Selects whether to display the modem speed during communication. (Press "v" or "^" to display)
038	Not used		
039	FLASH TIME	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
040	E/F TIME (For Germany, Austria and Switzerland only)	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
041	PAUSE TIME	1 = 1 sec. ~ 10 = 10 sec.	Selects the pause interval from 1 sec. ~ 10 sec. for dialing through a switchboard or for international calls.
042	Not used		
043	REDIAL INTERVAL	0 = no waiting ~ 15 = 15 minutes	Selects the redial interval from 0 to 15 minutes in 1 minute steps.

Function Parameter Table			
No.	Parameter (see Note 3)	Selections	Function
044	REDIAL COUNT	0 = no redial ~ 15 = 15 times	Selects the redial count from 0 to 15 times in 1 step intervals.
045	RING DETECT COUNT	1 = 1 ring ~ 9 = 9 rings	Selects the ring detection count from 1 to 9 rings in 1 ring step intervals.
046	ON-HOOK TIME	0 = 0 sec. ~ 90 = 90 sec.	Selects the on-hook time between sequential communication calls in 1 second step intervals.
047	RESPONSE WAIT	1 = 1 sec. ~ 90 = 90 sec.	Selects the waiting interval for the response after completing the dialing.
048 049	Not used		
050	RING DETECT MODE	1 = Normal 2 = Rough	Selects the quality of ringer detection. Use if the line signal is out of regulation, set to "Rough" so that the unit may detect the ringing signals.
051	INTERNATIONAL DT MODE (For Belgium, France and Spain version only.)	1 = Off 2 = On	Selects whether to distinguish the 4-digit international access code prefix.
052	PULSE RATE	1 = 10 pps 2 = 20 pps	Selects the dial pulse rate 10/20 pps.
053 054	Not used		
055	BUSY TONE CHECK	1 = Off 2 = On	Selects whether to detect the Busy Tone.
056	DIAL TONE CHECK (Except for USA and Canada version)	1 = Off 2 = On	Selects whether to detect dial tone before dialing the telephone number.
057	DC LOOP CHECK (Except for USA and Canada version)	1 = Off (will not check) 2 = On (checks)	Selects whether the unit checks the DC Loop during communication.
058	COMM.JRNL +IMAGE	1 = Off (without image) 2 = On (with image)	Selects whether the machine prints the COMM. Journal with image.
059	CONFIDENTIAL RCV REPORT	1 = Off (does not print out) 2 = On (prints out)	Selects whether the machine prints the CONFIDENTIAL RCV REPORT.
060	VERSION	Indicates the ROM version.	
061	TX/RX/PRT/CPY COUNTER	TX/RX/PRT/CPY	Displays the transmitted, received, total printed and copied document count.
062	PRINT COUNTER	1 = Off 2 = On	Selects whether to print in the Fax Parameter List, the counter information that is displayed in the Function Parameter No. 61.
063 ~ 069	Not used		
070	LINE ERROR	1 = 128 lines 2 = 256 lines 3 = 512 lines 4 = 1024 lines 5 = 2048 lines 6 = Off (will not disconnect line)	1. Selects the line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line. 2. Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 ERROR DETECT is set to "LINES") (See Note 1)
071	TOTAL ERROR	1 = 5% 2 = 10% 3 = 15% 4 = 20%	Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 ERROR DETECT is set to "RATE") (See Note 2)
072	CONTINUOUS ERROR	1 = Off (unlimited) 2 = 3 lines/STD 3 = 6 lines/STD 4 = 12 lines/STD	Selects the continuous total error criteria of Off/3/6 or 12 lines in Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No.73 ERROR DETECT is set to "RATE".)
073	ERROR DETECT	1 = Lines 2 = Rate	Selects the error detect condition Lines/Rate.
074	RTN RECEIVE	1 = Disconnect 2 = Continue	Selects whether to disconnect the phone line or continue when "RTN" is received.

Function Parameter Table			
No.	Parameter (see Note 3)	Selections	Function
075	MH/MR/MMR/JBIG	1 = MH (MH only) 2 = MR (MH or MR) 3 = MMR (MH or MR or MMR) 4 = JBIG	Selects the coding scheme.
076	Not used		
077	RX JAM LENGTH	1 = Off (unlimited) 2 = 2 m 3 = 8 m	Selects the maximum length of a received document that can be printed.
078 079	Not used		
080	DOC TOP FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor ON position and the scanning start position.
081	DOC END FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor OFF position and the scanning end position.
082	JAM LENGTH	1 = 1 m 2 = 2 m 3 = 8 m 4 = Unlimited	Selects the maximum length of the document that can be scanned.
083	Not used		
084	LINE AS NO PAPER	1 = Ring (ring) 2 = Busy (keep line busy)	Selects whether to ring or send a busy tone to the remote station when the recording paper runs out or the unit cannot receive because of any trouble.
085	Not used		
086	REDUCTION FINE	1 = Off 2 = On	Selects whether the resolution is preset to Fine, when sending with reduction B4→A4.
087	DARKER LEVEL	0 = Darkest Contrast	Selects the contrast level. 0← →15 Darkest← →Lightest
088	NORMAL LEVEL	~	
089	LIGHTER LEVEL	15 = Lightest Contrast	
090	CONTINUE FROM ADF (See Note 4)	1 = Off 2 = On (Default)	Selects whether the machine will continue the transmission and send the remaining document(s) from the ADF when the memory reaches 100% (Memory Overflow) while storing the documents.
091	Not used		
092	SMOOTHING	1 = Off 2 = On	Selects whether the smoothing function is available.
093 ~ 099	Not used		

**Note 1:** No. 070 LINE ERROR-Transmit condition of RTP/PIP or RTN/PIN

Signal	Setting					
	1:128	2:256	3:512	4:1024	5:2048	6:Off
MCF/PIP	0-31	0-63	0-127	0-255	0-511	Always
RTP/PIP	32-63	64-127	128-255	256-511	512-1023	-
RTN/PIN	64-127	128-255	256-511	512-1023	1024-2047	-

**Note 2:** No. 071 TOTAL ERROR-Transmit condition of RTP/PIP or RTN/PIN

Signal	Setting			
	1:5%	2:10%	3:15%	4:20%
MCF/PIP	0-2	0-4	0-7	0-9
RTP/PIP	3-4	5-9	8-14	10-19
RTN/PIN	5-	10-	15-	20-

**Note 3:**

The default setting of parameters depends on the country's specifications or regulations. Print the Function Parameter List to confirm the default settings.

**Note 4:**

This parameter will be available as a running change in the future.

## 5.3 Service Mode 3 (Printout of Lists, Reports and Test Results)

From this Service Mode you can print the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and the Toner Order Form.

### 5.3.1 Function Parameter List

A list of all Function Parameters can be printed by the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "".	SERVICE MODE ENTER NO. OR V A
4	Press "3".	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "START".	* PRINTING * FUNC. PARAMETER LIST
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE 12-JAN-1999 \*\*\*\*\* TIME 12:07 \*\*\*\*\*

<p>00 MON/TEL DIAL:[Monitor] Monitor            01 ALARM STATUS:[Timer] Timer            02 STOP COMM.JRNL:[On] On            03 CONTINUOUS POLL:[Off] Off            04 NUMERIC ID SET:[On] On            05 -----            06 ID DISPLAY:[Chara] Chara            07 JNL COLUMN:[Station] Station            08 MONITOR:[Off] Off            09 DC LOOP:[Off] Off            10 TX LEVEL:[-9dBm] -9dBm            11 RX LEVEL:[-43dBm] -43dBm            12 DTMF LEVEL:[-5dBm] -5dBm            13 G3 RX EQL:[0dB] 0dB            14 G3 TX EQL:[0dB] 0dB            15 -----            16 -----            17 TX START:[14400bps] 14400bps            18 RX START:[14400bps] 14400bps            19 ITU-T V.34:[On] On            20 ITU-T ECM:[On] On            21 EP TONE:[Off] Off            22 SIG. INTERVAL:[500ms] 500ms            23 TCF CHECK:[Normal] Normal            24 CED FREQ.: [2100Hz] 2100Hz            25 COMM. START-UP:[1'st] 1'st            26 NON-STANDARD:[On] On            27 SHORT PROTOCOL B:[On] On            28 SHORT PROTOCOL D:[On] On            29 REMOTE DIAG.: [On] On            30 CED &amp; 300bps:[75ms] 75ms            31 RTC=EQL x 12:[Off] Off            32 V34 TX START:[33600bps] 33600bps            33 V34 RX START:[33600bps] 33600bps            34 V34 TX SR:[3429sr] 3429sr            35 V34 RX SR:[3429sr] 3429sr            36 -----            37 PROTOCOL DISPLAY:[Off] Off            38 -----            39 FLASH TIME:[500] 500ms            40 -----            41 PAUSE TIME:[3sec] 3sec            42 -----            43 REDIAL INTERVAL:[3min] 3min            44 REDIAL COUNT:[5] 5            45 RING DET. COUNT:[2] 2            46 ON-HOOK TIME:[5sec] 5sec            47 RESPONSE WAIT:[55sec] 55sec            48 -----            49 -----</p>	<p>50 RING DET MODE:[Normal] Normal            51 -----            52 PULSE RATE:[10pps] 10pps            53 -----            54 -----            55 BUSY TONE CHECK:[On] On            56 -----            57 -----            58 COMM. JRNL + IMAGE:[On] On            59 CONF.RCV REPORT:[On] On            60 VERSION: UF-895 ALV02100AU            61 TX/RX/PRT/CPY:000050/000058/000074/000016            62 PRINT COUNTER:[Off] Off            63 -----            64 -----            65 -----            66 -----            67 -----            68 -----            69 -----            70 LINE ERROR:[128] 128            71 TOTAL ERROR:[ 10] 10            72 CONTI. ERROR:[Off] Off            73 ERROR DETECT:[Rate] Rate            74 RTN RECEIVE:[Discon] Discon            75 MH/MR/MMR/JBIG:[JBIG] JBIG            76 -----            77 RX JAM LENGTH:[2 m] 2 m            78 -----            79 -----            80 DOC TOP FEED:[0.0mm] 0.0mm            81 DOC END FEED:[0.0mm] 0.0mm            82 JAM LENGTH:[ 2 m] 2 m            83 -----            84 LINE AS NOPAPER:[Ring] Ring            85 -----            86 REDUCTION FINE:[On] On            87 DARKER LEVEL:[4] 4            88 NORMAL LEVEL:[8] 8            89 LIGHTER LEVEL:[12] 12            90 CONTINUE FROM ADF:[On] On            91 -----            92 SMOOTHING:[On] On            93 -----            94 -----            95 -----            96 -----            97 -----            98 -----            99 -----</p>
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Note: The power must be reset for the new parameter settings to take effect.

-PANASONIC -

\*\*\*\*\* -PANAFAX- UF-885 - \*\*\*\*\* -12345678901234567890- \*\*\*\*\*

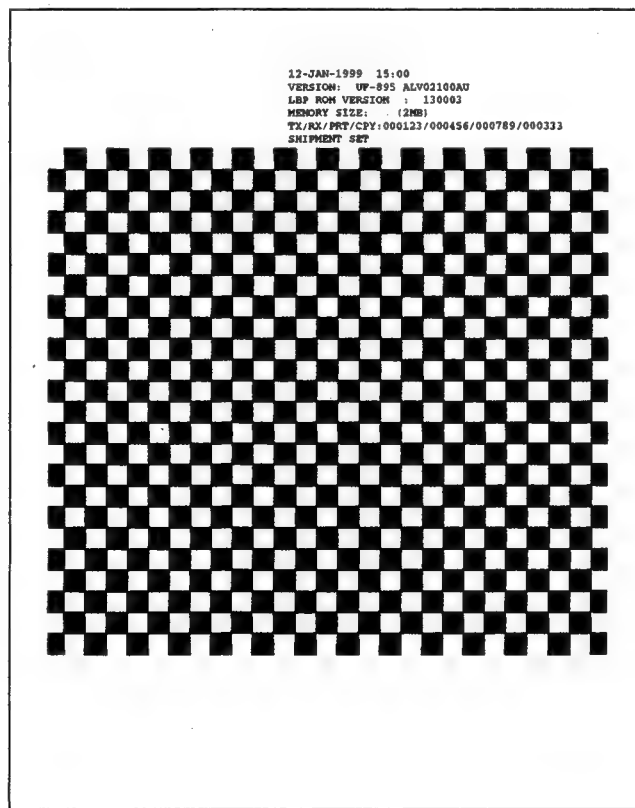
### Note:

1. [ ] - Factory Default
2. The contents of the Function Parameter List may vary depending on the country's regulations.
3. "\*" mark will be shown on the left side of number when setting was changed from default.

### 5.3.2 Page Memory Test

A test pattern prints out for checking the page memory (IC120 and IC121 on the FCB PCB) and printer mechanism using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "6".	SERVICE MODE ENTER NO. OR V A
4	Press "3".	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "3" and "START".	* PRINTING * PAGE MEMORY TEST
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%



### 5.3.3 Printer Report

All printer errors are logged on the Printer Report which can be printed by the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "***".	SERVICE MODE ENTER NO. OR V A
4	Press "3".	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "4" and "START".	* PRINTING * PRINTER REPORT
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%

*****PRINTER REPORT***** DATE 12-JAN-1999 ***** TIME 19:02*****	
LAST PRINT ERROR	: 12-JAN 15:38 NO. 001-12
CUSTOMER ID	: 1234567890123456
FAX ROM VERSION	: UP-895 ALV02100AU
LSP ROM VERSION	: 130002
TRANSMIT COUNTER	: 000475
RECEIVE COUNTER	: 000398
COPY COUNTER	: 001083
PRINT COUNTER	: 001128
PRINT ERROR	: 1.11-JAN-1999 15:38 NO.001-12
	: 2.10-JAN-1999 10:48 NO.001-11
	: 3.09-JAN-1999 15:23 NO.004-36
-PANAFAX-12345678901234567890-*****	



## 1. Printer Error Code Table

Error Code	Description of Problems	Cause
00	No problem detected	
10	The Timing Sensor turned OFF before a certain period of time.	1. Recording Paper Jam. 2. Timing Sensor defective 3. Incorrect paper size setting.
11	Timing Sensor did not turn ON within a certain period of time. (Original Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
12	Timing Sensor did not turn On within a certain period of time. (250 sheet Optional Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
13	Timing Sensor did not turn On within a certain period of time. (500 sheet Optional Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
14	Timing Sensor did not turn OFF within a certain period of time.	1. Recording Paper Jam. 2. Timing Sensor defective 3. Incorrect paper size setting.
15	Paper Eject Sensor did not turn ON within a certain period of time.	1. Recording Paper Jam. 2. Paper Eject Sensor defective.
16	Paper Eject Sensor did not turn OFF within a certain period of time.	1. Recording Paper Jam. 2. Paper Eject Sensor defective.
17	Timing Sensor detected paper while initializing the unit.	1. Recording Paper jammed in the unit. 2. Timing Sensor defective.
18	Paper Cassette was removed while Recording Paper was Feeding.	1. Recording Paper jammed in the unit. 2. Paper Eject Sensor defective.
1B	Paper Cassette was removed while Recording Paper was Feeding.	1. Recording Paper Jam.
22	The temperature of the Fuser Roller remained low even after the circuit was activated.	1. Fuser Unit defective. 2. LPC PCB defective. 3. LVPS defective.
23	Abnormally high Fuser Roller temperature after the circuit was de-activated.	1. Fuser Unit defective. 2. LPC PCB defective. 3. LVPS defective.
24	The temperature of the Fuser Roller was not controlled within a certain margin.	1. Fuser Unit defective. 2. LPC PCB defective. 3. LVPS defective.
25	Thermistor open.	1. Thermistor defective (Fuser Unit). 2. LPC PCB defective.
26	Thermostat detected temperature over 200°C.	1. Thermostat defective (Fuser Unit). 2. LPC PCB defective. 3. LVPS defective.
31	The Polygon Motor did not reach a constant speed of 10000 rpm within a certain period of time.	1. LSU defective.
32	The Polygon Motor did not maintain a constant speed of 10000 rpm.	1. LSU defective.
36	HSYNC signal abnormal.	1. LSU defective. 2. LPC PCB defective.
41	Fan does not rotate.	1. Fan defective. 2. LPC PCB defective.
54	A/D Converter error.	1. LPC PCB defective.
55	Printer Motor Ready Signal abnormal.	1. Connector is not properly connected. 2. Printer Motor defective. 3. LPC PCB defective.
61	Unit detected "No Toner Cartridge".	1. Toner Cartridge not installed. 2. Toner Sensor defective.
63	Unit detected "Printer Door Open".	1. Printer door is not closed. 2. ILS PCB defective.
64	Unit detected "No Cassette".	1. Cassette not installed or partially open. 2. Cassette Sensor defective.
65	Unit detected "Out of Paper".	1. Cassette(s) ran out of receiving paper. 2. Paper Detect Sensor defective.
68	Jam Access Cover of Optional 250 Sheet Feeder is open.	1. Jam Access Cover Sensor of Optional 250 Sheet Feeder defective.
69	Jam Access Cover of Optional 500 Sheet Feeder is open.	1. Jam Access Cover Sensor of Optional 500 Sheet Feeder defective.
71	Interface error occurs with the 500 sheet optional cassette.	1. CN101 is disconnected. 2. CST3 PCB defective.

**Note:**

If an 021 series Error Code occurs, 021-25 (Thermistor Open) or 021-26 (Thermistor detected temperature over 200 °C), a pre-programmed recovery safety software is activated to protect the unit and the service personnel during abnormal increase in temperature.

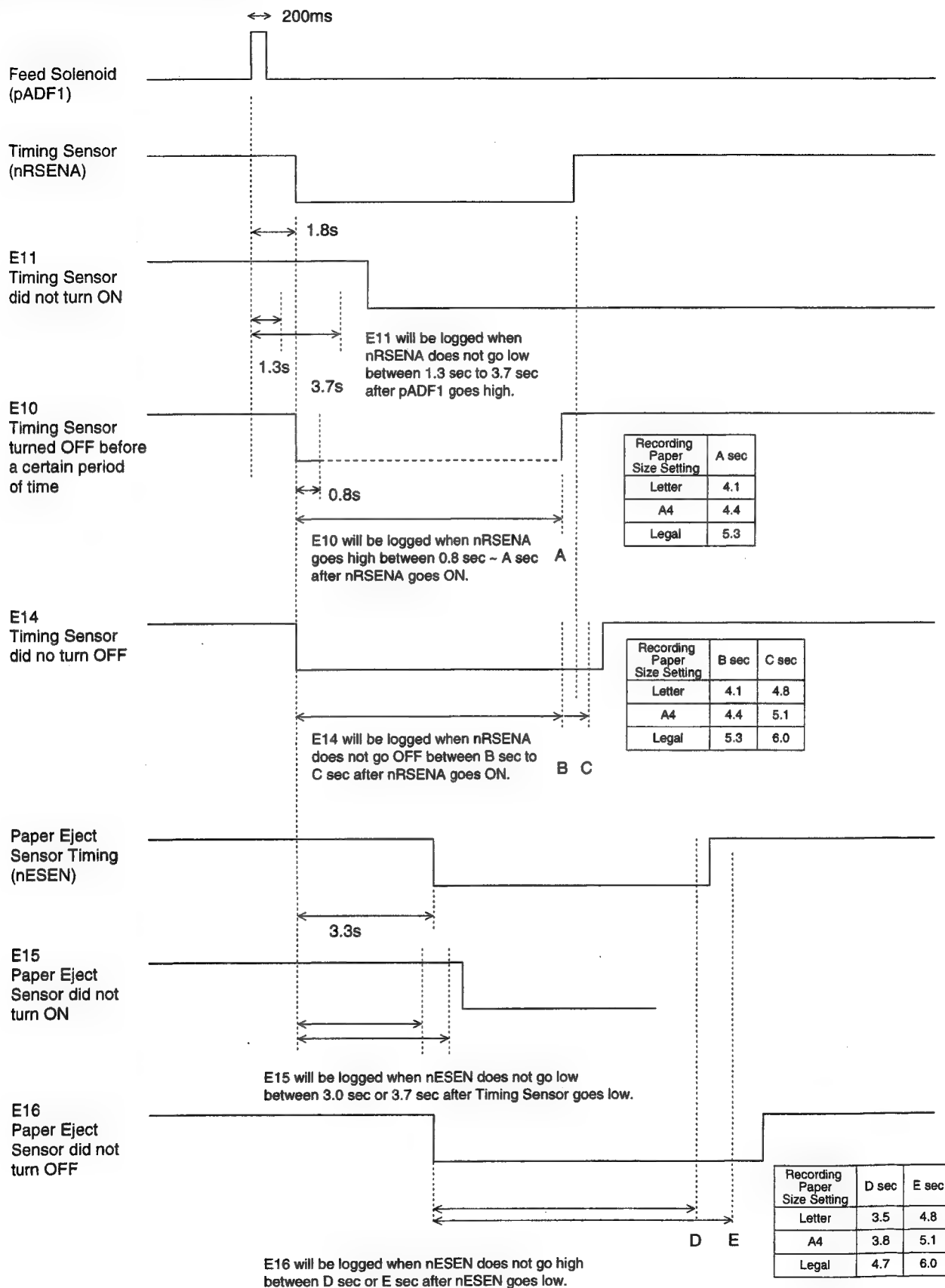
Once activated, this information is downloaded into the LPC PC Board's SRAM, disabling the Fuser Lamp and preventing it from turning ON again.

In order to reset this circuit, please follow the procedure below.

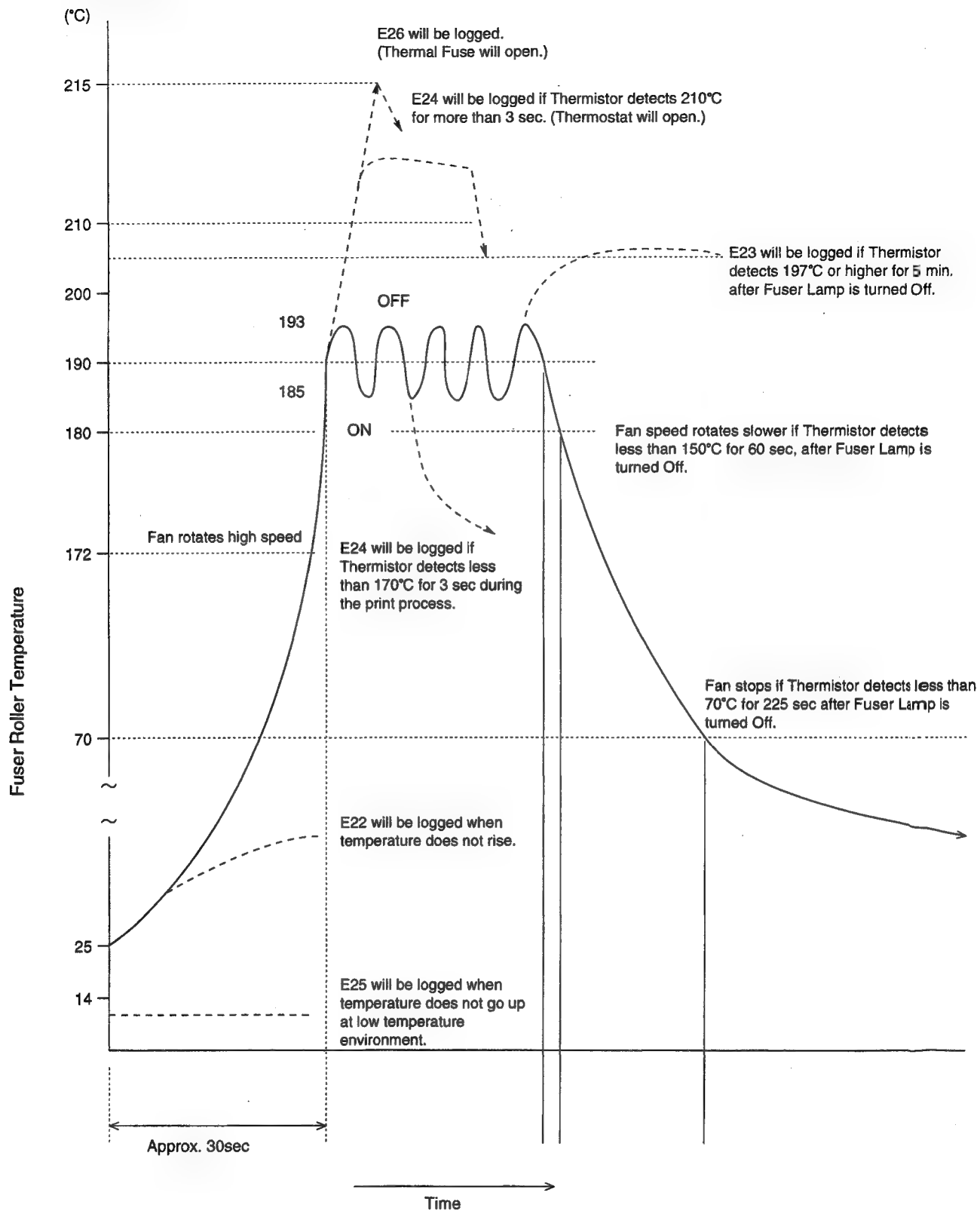
- 1) Reset the LBP Fuser by using Test Mode 7-1-2 (Section 5.6) and Power OFF/ON.
- 2) Replace the Thermistor or Fuser Unit. If the problem persists.
- 3) Replace the LPC PCB.

## 2. Printer Error Detail Explanation

### Recording Paper Jam Detection



## Fuser Error Detection



## LSU Error Detection

nPRNT  
Print Start

nPMON  
(CN51.9)  
Polygon Motor ON

nPMRY  
(CN51.8)  
Polygon Motor Ready

Normal Condition

Motor ON

3 sec

20 sec

E31

nPMRY  
Polygon Motor does not  
reach constant speed  
during wake up state.

nPMRY does not go low for more than 2 sec during 3 sec to 20 sec after nPMON goes low.

E32

nPMRY  
Polygon Motor does not  
maintain constant speed.

nPMON

nPMRY:ON

OFF

OFF

OFF

OFF

nPMRY goes high 4 times during printing.

nVIDEO  
(CN51.5)  
Laser Timing Signal

1 ms

nHSYNC  
(CN51.1)  
Laser Timing Detection

Normal Condition

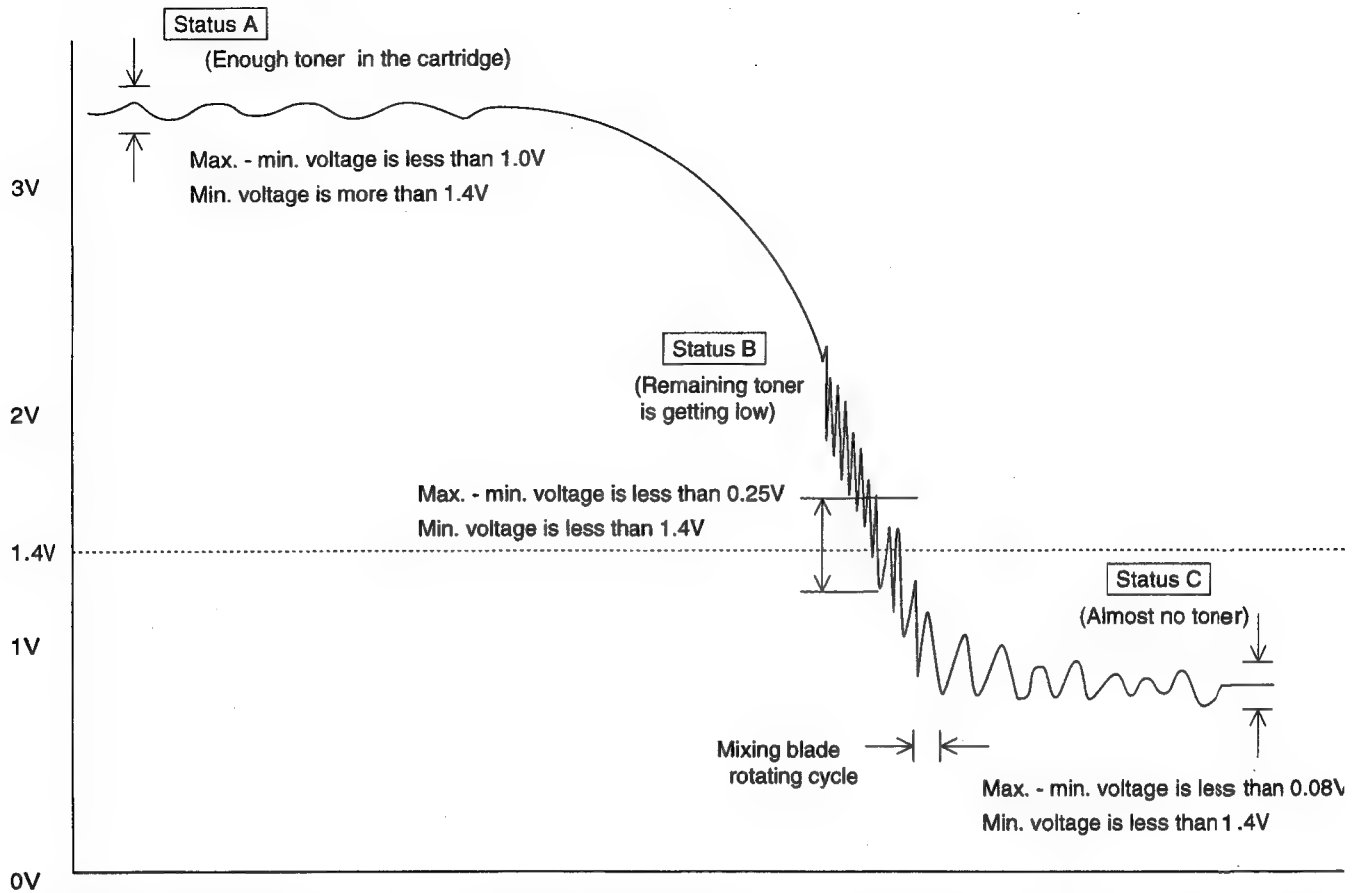
E36

nHSYNC  
(CN51.1)  
Can not detect  
Laser Timing

nHSYNC timing signal is less than 60% of nVIDEO signal.

## Out of Toner Detection

### Toner Sensor Output Signal



Toner Sensor output may change when the mixing blade passes above the Toner Sensor. Therefore the output signal has a max. voltage and min. voltage during mixing blade rotation cycle (6 sec).

#### E043

If the unit detects Status B 10 times during printing, the machine recognizes that the remaining toner is low and the display shows "REPLACE TONER CARTRIDGE".

#### E041

After detecting E043 and the LBP Print Available Counter Value reaches "0", the unit logs E041 (OUT OF TONER).

#### E45

If the unit detects Status C when power is On, the unit logs E045 and displays "NO CARTRIDGE". The unit will recover when detecting Status A after a new toner cartridge is installed.

### 5.3.4 All Document Files

Print the document files from the Flash Memory. (This function will be available as a running change in the future)

Step	Operation or Unit Condition	LCD Display
1	Standby	<div>12-JAN-1999 15:00 00%</div>
2	Press "FUNCTION" and then "7".	<div>SET MODE (1-6) ENTER NO. OR V A</div>
3	Press "MONITOR" four times, then press "**".	<div>SERVICE MODE ENTER NO. OR V A</div>
4	Press "3".	<div>PRINTOUT (1-7) 1:FUNC. PARAM. LIST</div>
5	Press "5" and "START".	<div>* PRINTING * ALL DOCUMENT FILES</div>
6	After printing is completed, the unit returns to the display in step 3.	<div>SERVICE MODE ENTER NO. OR V A</div>
7	Press "STOP" to return to standby.	<div>12-JAN-1999 15:00 00%</div>

### 5.3.5 Protocol Trace

Print a Protocol Trace Report for the previous communication.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "4".	SERVICE MODE ENTER NO. OR V A
4	Press "3".	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "6" and "START".	* PRINTING * PROTOCOL TRACE
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%

***** PROTOCOL LOG. REPORT ***** DATE 12-JAN-1999 ***** TIME 16:56 *****	
STATUS	: OK
MODE	: ECM-TX (STANDARD)
SPEED	: 9600bps 0MS/L
REMOTE CAPA.	: DIS 00 CE 39 C4 80 12
LOCAL CAPA.	: TSI 2B 20 20 20 38 37 2B 2B 2B 2B 39 38 36 36 35 34 37 38 38 30 DCS 00 C6 PB 44
COMMAND LOG.	
REMOTE	: NSP CSI DIS TSI DCS CPE
LOCAL	: NSP CSI DIS TSI DCS CPE
REMOTE	: NSP
LOCAL	: DCS
*****-PAMAFAX *****-12345678901234567890-*****	



### 5.3.6 Toner Cartridge Order Form

The Toner Cartridge Order Form can be printed out manually by the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V A
4	Press "3".	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "7" and "START".	* PRINTING * TONER ORDER FORM
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%

\*\*\*\*\*  
> TONER CARTRIDGE ORDER FORM <  
\*\*\*\*\*

\*\*\*\* The toner supply in your facsimile machine is running low \*\*\*\* (1)  
To order a replacement Cartridge from your Authorized Dealer

Panafax Corp. (2)

by Phone: 1 201 111 5555 (3)

by Fax: 1 201 111 4444 (4)

Thank you for your order.

Customer Name and Address

=====

Ship to: \_\_\_\_\_ Bill to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Attention: \_\_\_\_\_ Attention: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Customer ID: ABC COMPANY (5) P.O. No. (if required): \_\_\_\_\_

Toner Cartridge: UG-3313 (6) Serial No.: \_\_\_\_\_

Quantity Required:

Print your name and title \_\_\_\_\_ Signature & Date \_\_\_\_\_ / /

# Explanation of Contents

- (1) Low Toner Message (Fixed)
- (2) Dealer Name
- (3) Toner Order Tel #
- (4) Toner Order Fax #
- (5) Customer ID
- (6) Toner Cartridge No.

"The toner supply in your facsimile machine is running low"

Up to 25 digits

Up to 36 digits

Up to 16 characters (User Identification Code)

UG-3313

## 5.4 Service Mode 4 (Modem Test)

### 5.4.1 Binary Signal

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "4".	SERVICE MODE ENTER NO. OR V A
4	Press "4".	MODEM TEST (1-5) 1: SIGNAL TEST
5	Press "START".	SIGNAL TEST IDLE (ENTER 1-9)
6	Enter the signal number (1-9) to select the binary signal.	SIGNAL TEST 300bps
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SIGNAL TEST IDLE (ENTER 1-9)
8	Press "STOP" twice to return to standby.	12-JAN-1999 15:00 00%

Binary Signal Table

Number	Signals
1	V21 300bps
2	V27ter 2400bps
3	V27ter 4800bps
4	V29 7200bps
5	V29 9600bps
6	V17 TC7200bps
7	V17 TC9600bps
8	V33 12000bps
9	V33 14400bps

## 5.4.2 Tonal Signal

This test mode is used to check the tonal signal output. Signals can be output to the line using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "".	SERVICE MODE ENTER NO. OR V A
4	Press "4".	MODEM TEST (1-5) 1: SIGNAL TEST
5	Press "2" and "START".	TONAL TEST IDLE (ENTER 1-7)
6	Enter the signal number (1-7) to select the binary signal.	TONAL TEST 1080Hz
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	TONAL TEST IDLE (ENTER 1-7)
8	Press "STOP" twice to return to standby.	12-JAN-1999 15:00 00%

Tonal Signal Table

Number	Signals
1	462 Hz
2	1080 Hz
3	1100 Hz
4	1300 Hz
5	1650 Hz
6	1850 Hz
7	2100 Hz

### 5.4.3 DTMF Signal

This test mode is used to check the DTMF (Dual Tone Multi Frequency) signal output. The DTMF signal can be generated using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "7".	SERVICE MODE ENTER NO. OR V A
4	Press "4".	MODEM TEST (1-5) 1: SIGNAL TEST
5	Press "3" and "START".	DTMF TEST (1-2) 1. SINGLE
6a	Press "START" for DTMF Single Tone Generation.	SINGLE TONE ENTER (1-8)
7a	Enter the signal number (1-8) to select the DTMF signal.	SINGLE TONE 697Hz
6b	Press "2" and "START" for Dual Tone Generation.	DUAL TONE ENTER (0-#)
7b	Enter the signal number (0-#) to select the DTMF Dual tone.	DUAL TONE (0)
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7a or 7b.	SINGLE TONE ENTER (1-8)
9	Press "STOP" twice to return to standby.	12-JAN-1999 15:00 00%

DTMF Single Tone Table

Number	DTMF Signal Tones
1	697 Hz
2	770 Hz
3	852 Hz
4	941 Hz
5	1209 Hz
6	1336 Hz
7	1477 Hz
8	1633 Hz

DTMF Dual Tone Table

Number	DTMF Dual Tones
0	941 Hz + 1336 Hz
1	697 Hz + 1209 Hz
2	697 Hz + 1336 Hz
3	697 Hz + 1477 Hz
4	770 Hz + 1209 Hz
5	770 Hz + 1336 Hz
6	770 Hz + 1477 Hz
7	852 Hz + 1209 Hz
8	852 Hz + 1336 Hz
9	852 Hz + 1477 Hz
*	941 Hz + 1209 Hz
#	941 Hz + 1477 Hz

## 5.4.4 Binary Signal (V.34)

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure. (V.34)

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "set".	SERVICE MODE ENTER NO. OR V A
4	Press "4".	MODEM TEST (1-5) 1: SIGNAL TEST
5	Press "5" and "START".	V.34 MODEM TEST ENTER NO. _
6	Enter the signal number (01-61) and press [SET] to select the binary signal.	V.34 MODEM TEST V34 2400sr 2400bps
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	V.34 MODEM TEST ENTER NO. _
8	Press "STOP" twice to return to standby.	12-JAN-1999 15:00 00%

Binary Signal Table

Number	Signals	Number	Signals	Number	Signals
01	V34 2400 sr 2400 bps	22	V34 3000 sr 9600 bps	43	V34 3429 sr 4800 bps
02	V34 2400 sr 4800 bps	23	V34 3000 sr 12000 bps	44	V34 3429 sr 7200 bps
03	V34 2400 sr 7200 bps	24	V34 3000 sr 14400 bps	45	V34 3429 sr 9600 bps
04	V34 2400 sr 9600 bps	25	V34 3000 sr 16800 bps	46	V34 3429 sr 12000 bps
05	V34 2400 sr 12000 bps	26	V34 3000 sr 19200 bps	47	V34 3429 sr 14400 bps
06	V34 2400 sr 14400 bps	27	V34 3000 sr 21600 bps	48	V34 3429 sr 16800 bps
07	V34 2400 sr 16800 bps	28	V34 3000 sr 24000 bps	49	V34 3429 sr 19200 bps
08	V34 2400 sr 19200 bps	29	V34 3000 sr 26400 bps	50	V34 3429 sr 21600 bps
09	V34 2400 sr 21600 bps	30	V34 3000 sr 28800 bps	51	V34 3429 sr 24000 bps
10	V34 2800 sr 4800 bps	31	V34 3200 sr 4800 bps	52	V34 3429 sr 26400 bps
11	V34 2800 sr 7200 bps	32	V34 3200 sr 7200 bps	53	V34 3429 sr 28800 bps
12	V34 2800 sr 9600 bps	33	V34 3200 sr 9600 bps	54	V34 3429 sr 31200 bps
13	V34 2800 sr 12000 bps	34	V34 3200 sr 12000 bps	55	V34 3429 sr 33600 bps
14	V34 2800 sr 14400 bps	35	V34 3200 sr 14400 bps	56	ANSam
15	V34 2800 sr 16800 bps	36	V34 3200 sr 16800 bps	57	CM
16	V34 2800 sr 19200 bps	37	V34 3200 sr 19200 bps	58	JM
17	V34 2800 sr 21600 bps	38	V34 3200 sr 21600 bps	59	INFO0c & TONEB
18	V34 2800 sr 24000 bps	39	V34 3200 sr 24000 bps	60	INFO0c & TONEA
19	V34 2800 sr 26400 bps	40	V34 3200 sr 26400 bps	61	PPh & AC & ALT
20	V34 3000 sr 4800 bps	41	V34 3200 sr 28800 bps		
21	V34 3000 sr 7200 bps	42	V34 3200 sr 31200 bps		

## 5.5 Service Mode 5 (Diagnostic)

### 5.5.1 CCD Test

This test is used to check the CCD.


Use the following procedure to initiate the test.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "5".	SERVICE MODE ENTER NO. OR V A
4	Press "5".	DIAGNOSTIC (1-3) 1:CCD TEST
5	Press "START". The scanner will be active.	1:CCD TEST * CHECK NOW *
6	Press "STOP".	SERVICE MODE ENTER NO. OR V A
7	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%



### 5.5.2 LCD / LED Test

This test is used to check the LCD and LEDs.  
Use the following procedure to initiate the test.

Step	Operation or Unit Condition	LCD Display
1	Standby	<div>12-JAN-1999 15:00 00%</div>
2	Press "FUNCTION" and then "7".	<div>SET MODE (1-6) ENTER NO. OR V A</div>
3	Press "MONITOR" four times, then press "**".	<div>SERVICE MODE ENTER NO. OR V A</div>
4	Press "5".	<div>DIAGNOSTIC (1-3) 1:CCD TEST</div>
5	Press "2" and "START". 1) LCDs display as shown at right. 2) All LEDs will light.	<div>2:LCD/LED TEST * CHECK NOW *</div> <div></div>
6	Press "STOP".	<div>SERVICE MODE ENTER NO. OR V A</div>
7	Press "STOP" to return to standby.	<div>12-JAN-1999 15:00 00%</div>

## 5.6 Service Mode 6 (RAM Initialization)

Initializes RAM and restores the Function Parameters to their default values.

**Note:**

This operation should be performed when the unit is first installed.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR VΛ
3	Press "MONITOR" four times, then press "***".	SERVICE MODE ENTER NO. OR VΛ
4	Press "6".	* RAM INITIALIZE * ENTER NO. OR VΛ
5	Press "V" or "Λ" to select the initialization mode. (See Note)	* RAM INITIALIZE * LOGO/ID/PSWD CLEAR
6	Press "START".	LOGO/ID/PSWD CLEAR * COMPLETED *
7	Return to step 3 and press "STOP" to return to standby.	12-JAN-1999 15:00 00%

RAM Initialization Table

No.	Initialize Mode	Description
99	SHIPMENT SET (A)	Deletes all setting information, except parameter number 80 and 81, then set default values.
98	SHIPMENT SET (B)	Deletes all setting information, except parameter number 61, 80 and 81, then set default values.
97	FLASH MEMORY CLEAR	Deletes all information in the Flash Memory.
16	LBP ERROR LOG CLEAR	Clears the Printer Error Log.
15	LOGO/ID/PSWD CLEAR	Clears the Logo, ID, Polling Password.
14	ALL JOB CLEAR	Clears all Jobs stored in Flash Memory.
13	PROGRAM DIAL CLEAR	Clears the Program keys.
12	ABBR. DIAL CLEAR	Clears the One-touch and ABBR. Numbers.
11	JOURNAL CLEAR	Clears the Journal contents.
*	PARAMETER INITIALIZE	Restores the Fax and Function Parameters to default values.

## 5.7 Service Mode 7 (LBP Service Mode)

This test mode is used to change printer parameters and verify printer information. Use the following procedure to change printer parameter.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR VΛ
3	Press "MONITOR" four times, then press "▲".	SERVICE MODE ENTER NO. OR VΛ
4	Press "7".	LP SERVICE MODE (1-2) 1:LBP PARAMETER SET
5	Press "START" for printer parameter settings. Press "2" and "START" to get the printer information. Ex: Enter "START" for printer parameter settings.	LBP PARAMETER SET 1.PRINTER COUNTER
6	Press "3" and "START". Then enter the number of pages. Ex: Enter "50" and "START".	LBP PARAMETER SET 3.OUT OF TONER
7	Repeat step 5 through 6 to request operation, or press "STOP" to return to standby.	12-JAN-1999 15:00 00%

Sub-Code	Parameter Name	Description
1	1 Printer Counter	Displays and resets the printer and cassette(s) counters.
	2 LBP Fuser Reset	Clears the LBP fuser error.
	3 Out of Toner	Sets the number of pages to print after low toner is detected.
2	VΛ LBP ROM Version	Shows the LBP ROM Version.
	VΛ LBP Print Available	Shows the remaining number of allowable printable pages after low toner has been detected (Counter Only).
	VΛ LBP MEMORY CAPACITY	Shows the page memory capacity.

## 5.8 Service Mode 8 (Check & Call)

### 5.8.1 Overview

This feature enables the Authorized Servicing Dealers to manage and improve the Fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

1. The machine's printer error information is stored in the Printer Report.
2. The printer report can be manually printed when required.
3. When printer errors occurs, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
4. When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.
5. When the unit detects Low Toner, it can automatically print out the Toner Order Form with pre-registered order information.

### 5.8.2 Printer Reports

- Conditions under which a report can be printed or transmitted

1. Manual print

The Printer Report can be printed by Service Mode 3. (See page 161)

2. Automatic transmission/printout

3. Service Alert Report

When the unit detects an Emergency Printer Error, the unit will immediately transmit the Service Alert Report to the pre-registered telephone number. However, the unit will not transmit the Service Alert Report if it finds the same error within the same date in the error log.

4. Maintenance Alert Report

When the unit detects Low Toner, the unit can automatically transmit the Maintenance Alert Report to the pre-registered telephone number. Refer to the Printer Error Code Table.

5. Toner Order Form

When the unit detects Low Toner, the unit can automatically print the Toner Order Form with the pre-registered order information.

#### Note:

The Service and Maintenance Alert Reports are managed in the same manner as the normal memory transmission (Retry, Incomplete, File List, Display while it is transmitting, Journal).

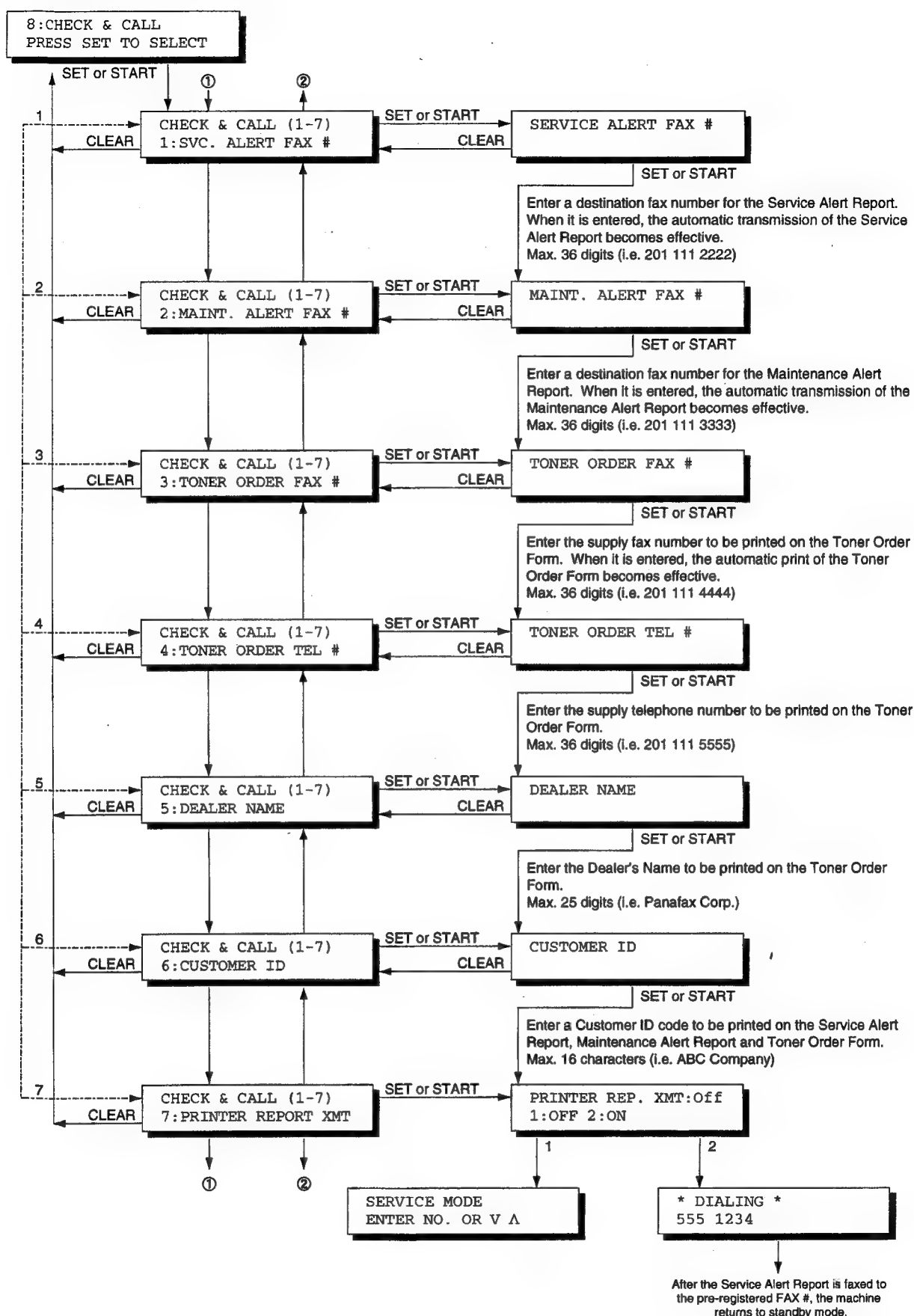
- Printer Error Code Table

Info. Code	Printer Error Code	LED/LCD	Log only	Tx Report	Condition	Content of Error
001-003	11-13	JAM	o		R/C	Paper Jam 1st, 2nd or 3rd Cassette.
007	14-19	JAM	o		R/C	Paper Exit Error.
010	00	NO PAPER			R/C	No Paper in 1st, 2nd or 3rd Cassette, or wrong Guide Setting.
011	64,65	NO PAPER			S	No 1st, 2nd or 3rd Cassette, or No Paper in 1st, 2nd or 3rd Cassette.
021	22-26,41		o	o	R/C	Fuser Problem / Fan Problem / LP Thermistor disconnected Problem.
041	62	TONER	o		S/R/C	No Toner
043	00	TONER	o	x	S/R/C	Low Toner Warning
045	61	TONER	o		S	No Toner Cartridge
051	00		o	o	S/R/C	Printer Error
054	31,32,36		o	o	R/C	LSU Problem
055	51-55,58,00		o	o	S/R/C	No response from LP Controller
060						Rx Door Open
870		MEMORY OVERFLOW			T/R	Memory Overflow detected

#### Note:

1. Transmission Report: o = Service Alert Report, x = Maintenance Alert Report
2. Condition: R = Receive Mode, C = Copy Mode, S = Standby Mode, T = Transmit Mode

## 5.8.3 Setting Operation



## Note

### 1. Service Alert Report

To enable the automatic transmission of Service Alert Report, enter the destination fax telephone number in the "SERVICE ALERT FAX #" field. When a printer error occurs, the Service Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Service Alert Report.

### 2. Maintenance Alert Report

To enable the automatic transmission of Maintenance Alert Report, enter the destination fax telephone number in the "MAIN ALERT FAX #" field. When a printer error occurs, the Maintenance Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Maintenance Alert Report.

### 3. Toner Order Form

To enable the automatic printout of the Toner Order Form, enter the destination fax telephone numbers in the "Toner Order FAX #" field. When a low toner error occurs, the Toner Order Form is printed automatically. A blank entry in this field, disables the automatic printout of the Toner Order Form.

### 4. SERVICE ALERT FAX #, this would be the fax telephone number for the Dealer's Service Department.

**MAINT. ALERT FAX #**, this could be the fax telephone number for the Dealer's Supply Sales Desk.

**TONER ORDER FAX #**, this could be the fax telephone number for the Dealer's Supply Sales Desk.

**TONER ORDER TEL #**, this could be the voice telephone number for the Dealer's Supply Sales Desk.

**DEALER NAME**, this name is printed on the Toner Order Form.

**CUSTOMER ID**, to identify your customer, enter up to 16 characters user code in this field. This name will be printed on the Service Alert Report, Maintenance Alert Report and Toner Order Form.

#### 5.8.4 SERVICE ALERT REPORT FORMAT

[illegible]

## Explanation of Contents

- (1) Date & Time when a problem occurred
- (2) Information Code
- (3) Printer Error Code
- (4) Customer ID
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Copy / Print Counters
- (8) Print Error

**Refer to Service Manual**  
Up to 16 characters (User Identification Code)

**Last 30 records (Latest on top)**

## 5.8.5 MAINTENANCE ALERT REPORT FORMAT

```
***** DATE 12-JAN-1999 ***** TIME 12:14 *****

*****
> MAINTENANCE ALERT REPORT <
*****

LAST PRINT ERROR : MACHINE IS RUNNING OUT OF TONER (1)

CUSTOMER ID      : ABC COMPANY (4)

FAX ROM VERSION  : UF-895 ALV02100AU (5)
LBP ROM VERSION  : 130003 (6)

TRANSMIT COUNTER : 999999 (7)
RECEIVE COUNTER  : 999999
COPY COUNTER     : 999999
PRINT COUNTER    : 999999

                                -LOGO PANASONIC -

***** -CHARACTER ID - ***** -31415926535897932384-*****
```

### Explanation of Contents

(1) Low Toner Message (Fixed)

(4) Customer ID

(5) Fax ROM Version

(6) LBP ROM Version

(7) Transmission / Reception / Copy / Print Counters

"MACHINE IS RUNNING OUT TONER"

Up to 16 characters (User IdentificationCode)



## 5.9 Service Mode 9 (System Maintenance)

### 5.9.1 Overview

This Service Mode is used to maintain and/or update the firmware of the machine.

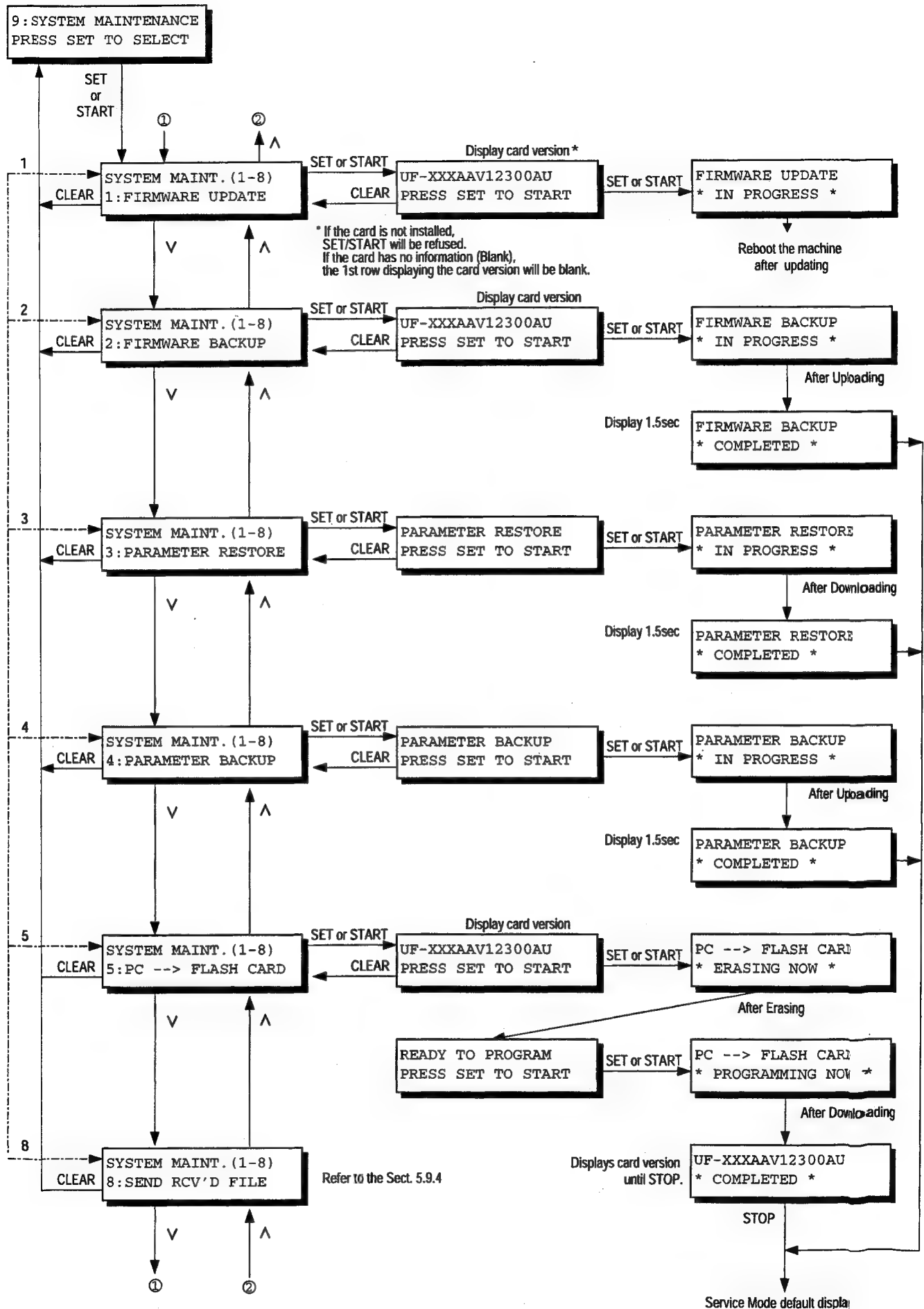
Use the following procedure for System Maintenance.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1999 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V A
3	Press "MONITOR" four times, then press "".	SERVICE MODE ENTER NO. OR V A
4	Press "9".	SYSTEM MAINT. (1-8) 1:FIRMWARE UPDATE
5	Press "START" to update the firmware. Enter No. or press "V" or "A" to select the maintenance to be performed. Ex: Enter "2".	SYSTEM MAINT. (1-8) 2:FIRMWARE BACKUP
6	Press "START" and "SET".	FIRMWARE BACKUP * IN PROGRESS *
7	After the backup is completed, repeat step 5 through 6 to request an operation.	SERVICE MODE ENTER NO. OR V A
8	Press "STOP" to return to standby.	12-JAN-1999 15:00 00%

**System Maintenance Table**

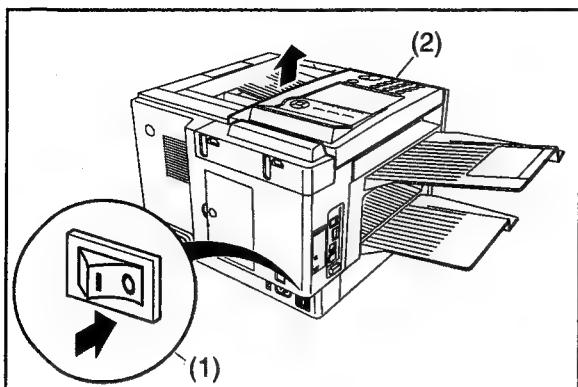
No.	Maintenance Mode	Description
1	FIRMWARE UPDATE	Updates the firmware in the machine with the Master Firmware Card.
2	FIRMWARE BACKUP	Creates a Backup Card of the machine's firmware. (A 2 MB or higher Flash Memory Card is required)
3	PARAMETER RESTORE	Restores the parameters from the Backup Card into the machine.
4	PARAMETER BACKUP	Creates a Backup Card of the machine's parameters. (A 1 MB or higher Flash Memory Card is required)
5	PC → FLASH CARD	Creates a Master Firmware Card using the Firmware Update Kit. (A 2 MB or higher Flash Memory Card is required)
8	SEND RECEIVED FILE	Transfers documents from memory to another fax machine during a fatal printer error.

## 5.9.2 Operation

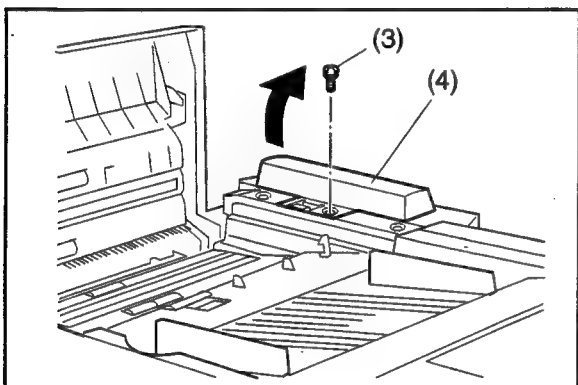


### 5.9.3 Recovering From Firmware Update Failure

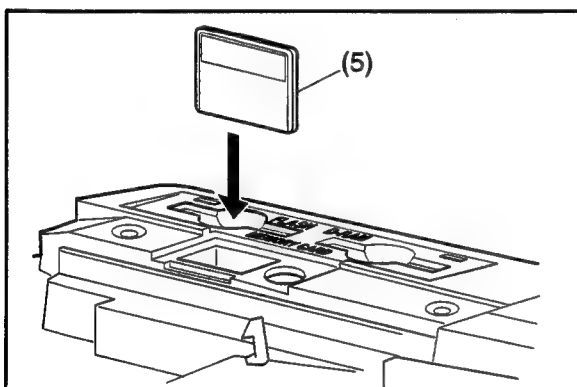
If the Firmware Update is interrupted before completion, the machine will not be able to progress into the Standby Mode and the LCD display will remain Blank. If this happens, please follow the steps described below to recover from a failed firmware update.



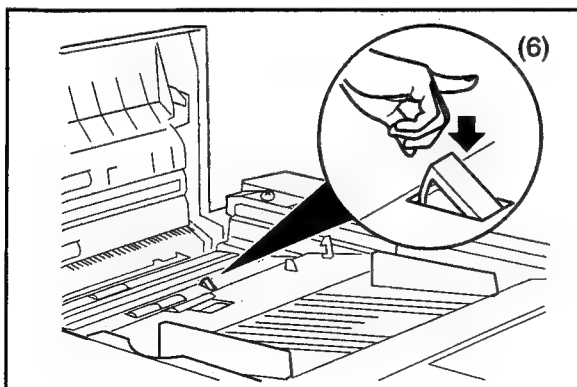
- (1) Turn the **Power Switch** "OFF".
- (2) Open the **Control Panel Unit**.



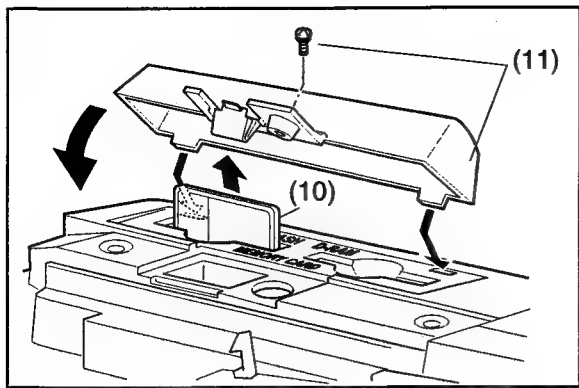
- (3) 1 **Screw (B1)**.
- (4) Remove the **Memory Card Cover (115)**.



- (5) Insert the **Flash Memory Card** with the Firmware Code programmed into the card.



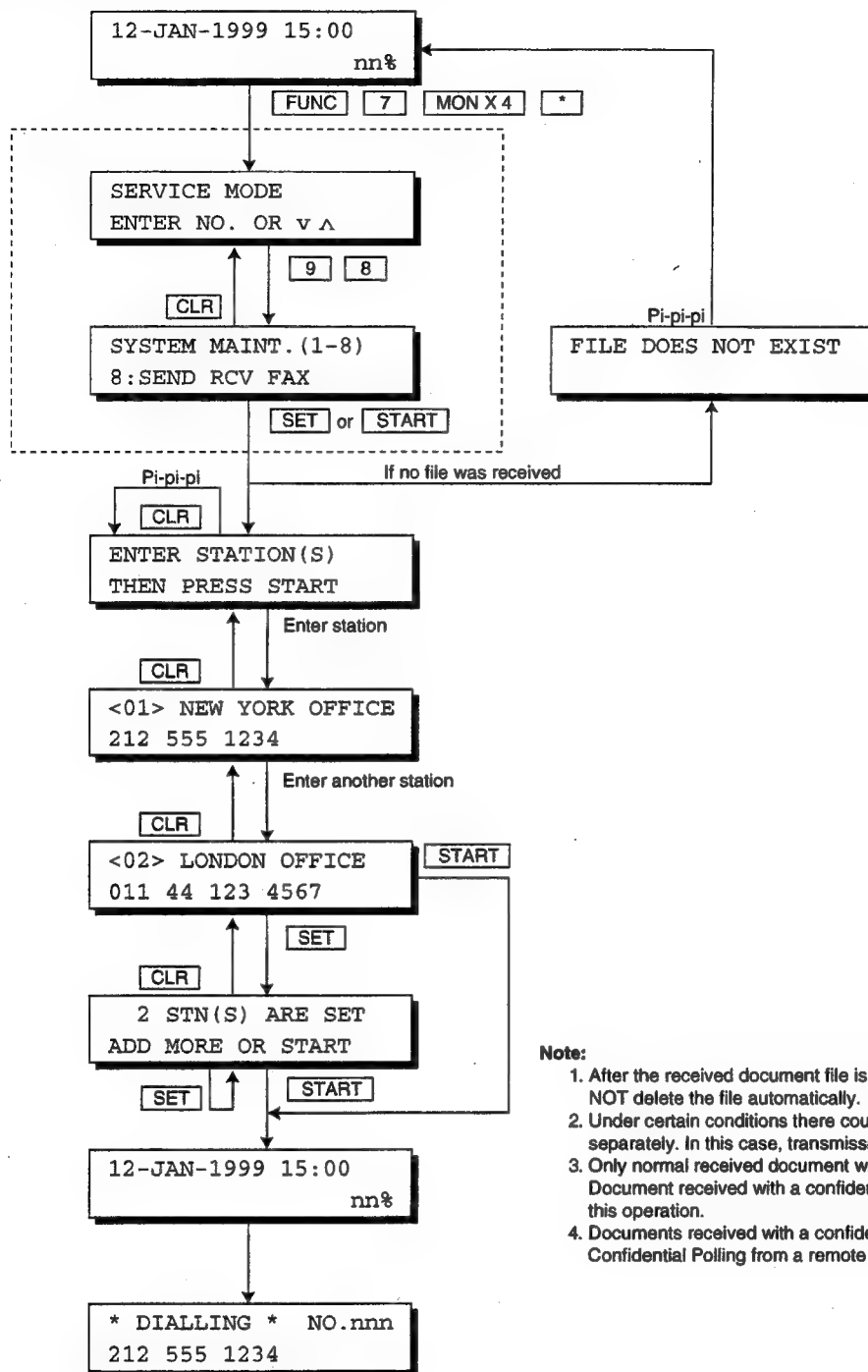
- (6) Activate the **Read Point Sensor** with your finger and turn the **Power Switch** "ON".
- (7) Wait approximately 10 seconds, release the **Read Point Sensor** and close the **Control Panel Unit (ADF)**.
- (8) Allow the unit to complete the Firmware Update (approx. 1-minute). When completed, the unit will reboot and progress to the Standby Mode.



- (9) Turn the **Power Switch "OFF"**.
- (10) Remove the **Flash Memory Card**.
- (11) Re-install the **Memory Card Cover**.
- (12) 1 **Screw (B1)**.
- (13) Close the Control Panel Unit.
- (14) Turn the **Power Switch "ON"**.
- (15) Perform Parameter Initialization.

## 5.9.4 Send Received File

This function is the relief mode which makes it possible to retrieve memory received documents during a fatal printer error by transferring the documents to another fax machine.



### Note:

1. After the received document file is successfully transmitted, unit will NOT delete the file automatically.
2. Under certain conditions there could be two (2) received files stored separately. In this case, transmission will be made separately.
3. Only normal received document will be transmitted. Document received with a confidential code will NOT be transmitted by this operation.
4. Documents received with a confidential code, can be retrieved by using Confidential Polling from a remote station.

# 6

## 6.

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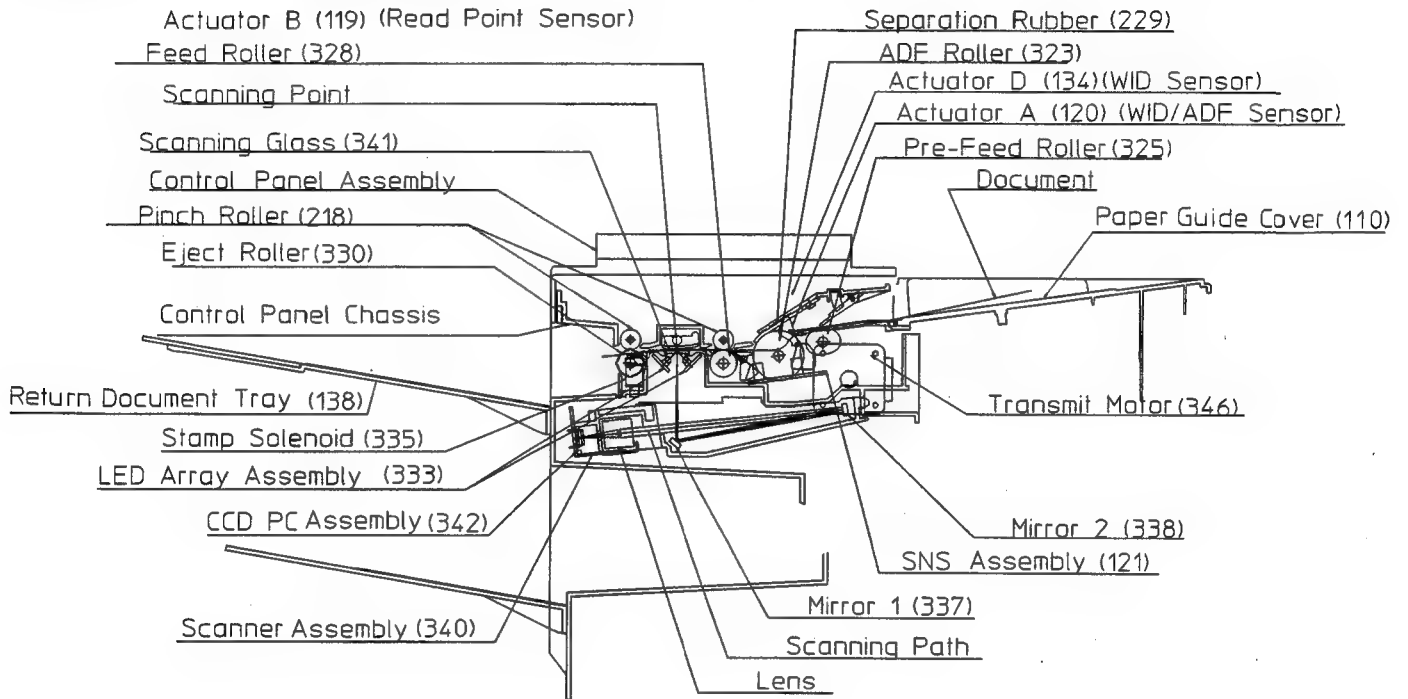
Cover

Contra

193

### 6.1.1

The Tra ... consists of components which feed, scan and eject documents, as well as send signals. These components and their functions are as follows:



## ADF Mechanism

The ADF (Automatic Document Feeder) automatically feeds paper into the unit, and consists of the Pre-Feed Roller, ADF Roller and Separation Rubber. Each document is placed face-down on the Paper Guide Cover before being fed into the unit.

- The **Pre-Feed Roller** (325) moves the bottom document to the ADF Roller.
- The **ADF Roller** (323) feeds individual pages into the scanning area.
- The **Separation Rubber** (229) separates documents placed on the Paper Guide Cover, preventing multiple feeding.

## LED Array Assembly

The UF-895 has two LED Arrays (UF-885 has one LED Array), used as a light source to illuminate the document. The LED Array(s) turns ON when the Read Point Sensor is activated by the document leading edge.

## Transmit Guide Unit

The Transmit Guide Unit is an auxiliary part used for feeding and ejecting documents. It consists of the Control Panel Chassis (216), Transmitter Chassis (301), Feed Roller (328), Eject Roller (330), and Pinch Roller (218). This unit also provides the white scanning area and serves as a base for electronic white reference.

## Transmit Mechanism Drive System

This system feeds documents through the transmitting mechanism, and consists of rollers, gears and a stepper motor.

- The **Transmit Motor** (346), a stepper motor, controlled by the CPU, drives the Pre-Feed Roller, ADF Roller, Feed Roller and Eject Roller, with the speed based on the density of the picture information.
- The **Feed Roller** (328) feeds the document to the scanning point.
- The **Eject Roller** (330) feeds and ejects the document out of the machine.

## Transmit Mechanism Sensors [SNS PCB (121)]

The **SNS Assembly** (121) performs two functions. The ADF Sensor (PC3), activated by Actuator A (120), detects the presence of documents on the ADF Tray and multiple pages. The WID (A4/B4 size document width) Sensor (PC1), activated by Actuator D (134), detects documents that are wider than 9.1 inches (232 mm). The size of the reproduced copy is reduced when the receiver is capable of printing only letter and A4 size. The size remains the same when the receiver is capable of printing B4 size copies. Width reduction is also in effect in the copy mode.

The **RP (Read Point) Sensor** (PC2), activated by Actuator B (119), detects the lead and trail edges of the document, controlling the reading position. The CPU determines that a document is jammed if Actuator B is not tripped within a specified time after the ADF Roller starts feeding, and disengages the Pre-Feed and ADF Rollers by reversing the Transmit Motor direction.

The **ADF Door Sensor** (PC1), activated by Actuator C (118), halts all scanning operations when the Control Panel Unit is open.

## Verification Stamp Unit

The Verification Stamp Unit stamps an "X" mark on the front of the document after the document is successfully transmitted or stored. It consists of the Stamp Holder (334) and Stamp Solenoid (335).

## Scanner Assembly (340)

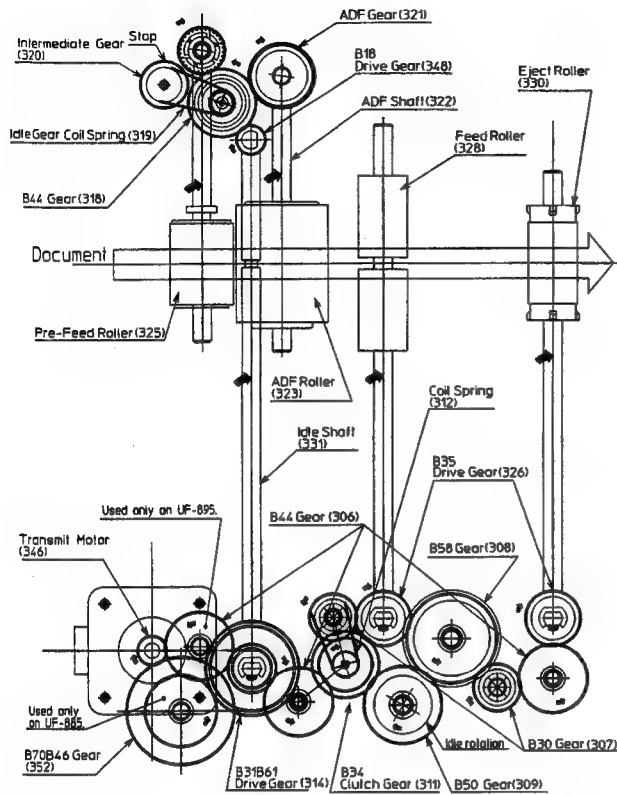
The Scanner Assembly consists of two mirrors, a **Lens**, and a **CCD PC Board Assembly** (342).

- The mirrors, **Mirror 1** (337) and **Mirror 2** (338) reflect image information, in the form of light, through the Lens.
- The **Lens** focuses the image information and passes it to the CCD.
- The **CCD**, mounted on the CCD PC Board, converts the image information into an electronic signal.

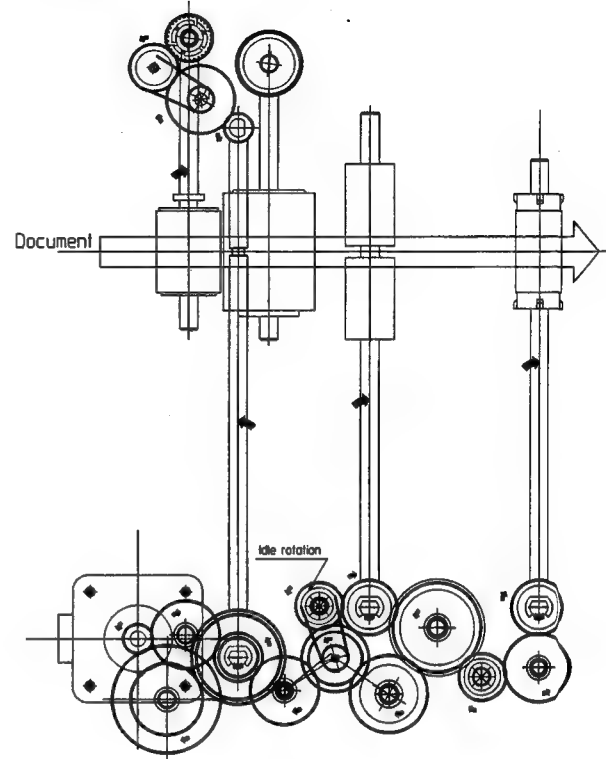
## Drive System

The Drive System uses a Planetary Gear System to provide drive to the Pre-Feed Roller and ADF Roller. A planetary gear system does not have a fixed position; it shifts its position according to the rotational torque of the gear, together with the rotation of the planet gear. When the Read Point Sensor is activated, and the document is scanned, the Pre-Feed Roller and the ADF Roller drive are disengaged. The Drive System is shown below.

Operation Specification - Motor(CW)  
1) Document Feed Operation



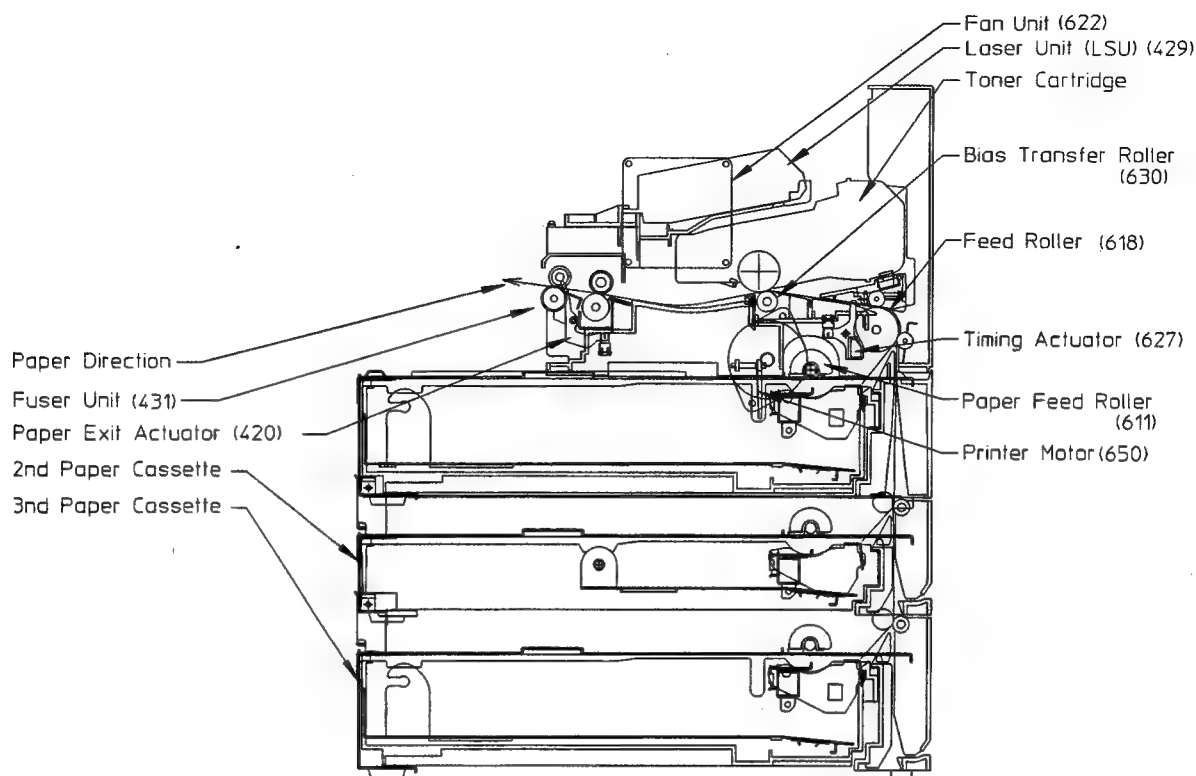
Operation Specification - Motor(CCW)  
1) Power ON Initial Operation  
2) Scanning Operation  
3) Document Eject Operation





## 6.1.2 Receive Mechanism

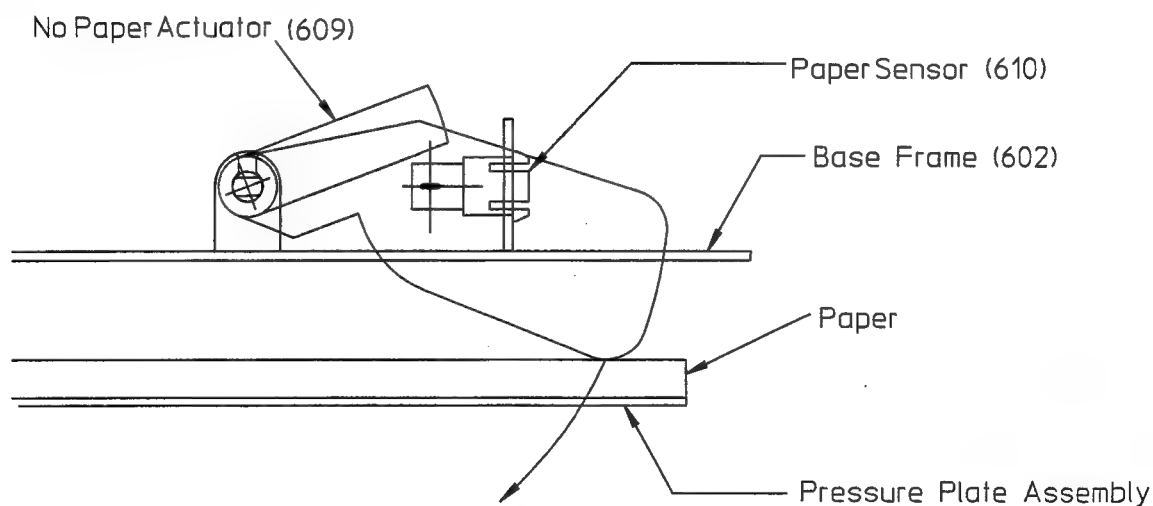
The Receive Mechanism consists of the Laser Unit (LSU), OPC (Organic Photo Conductor) Drum, and various other parts which ensure the normal feeding of recording paper. These components and their functions are as follows:



### Paper Feed Units No.1 and 2

Paper Feeder Unit No.2 is optional.

### Cassette Paper Detection operation



The NP Actuators attached to the Paper Feed Blocks No.1 and 2 determine if there is paper in the cassette. The paper in the cassette lifts up the NP Actuator, allowing the light from the LED to actuate the phototransistor. The output signal level (nPCHK1 or nPCHK2) is shown in the table below.

	Paper in cassette	No paper
Paper Feed Block No.1	L	H
Paper Feed Block No.2	L	H

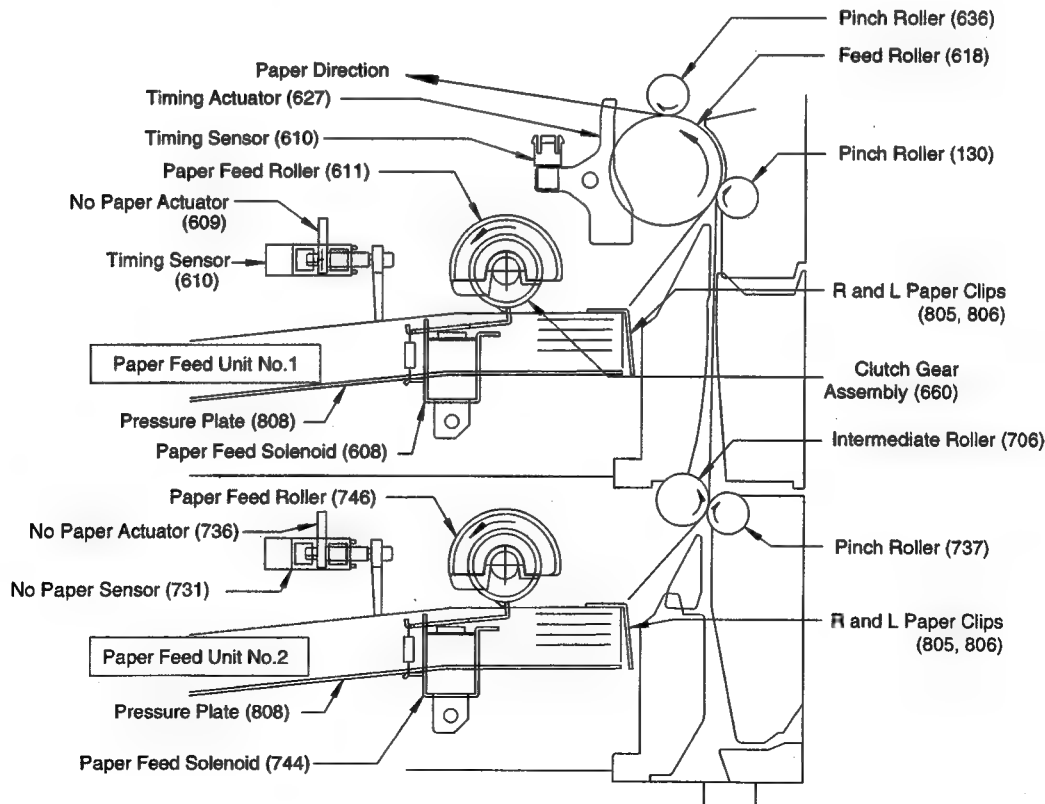
## Paper Feed Unit No. 1 Operation

1. The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
2. The Paper Feed Solenoid (608) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (746), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Feed Roller (618).
3. After one revolution the Paper Feed Roller stops, releasing the paper. The Feed Roller transports the paper to the drum area.
4. The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a specified period of time after the trailing edge clears the Timing Actuator.

## Paper Feed Unit No. 2 (Optional) Operation

The First Paper Feed Unit always takes priority. The Second Paper Feed Unit becomes operational only when the first cassette runs out of paper and the NP Sensor is deactivated, causing the nPCHK1 output signal level to go High. (See Note)

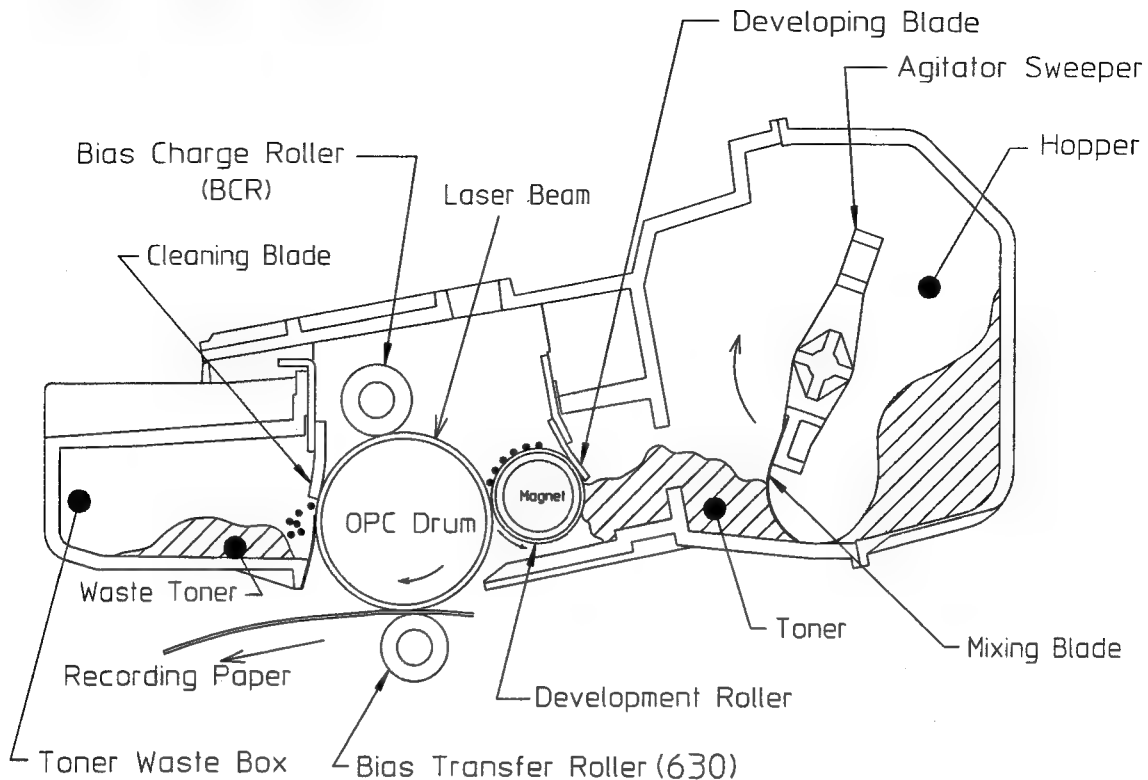
1. The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
2. The Paper Feed Solenoid (744) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (746), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Intermediate Roller (706).
3. After one revolution the Paper Feed Roller stops, releasing the paper. The Intermediate Roller and the Feed Roller (618) transports the paper to the drum area.
4. The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a a specified period of time after the trailing edge clears the Timing Actuator.



### Note

The printing priority is always from the 500 sheet Feeder Unit (upper cassette).

### 6.1.3 Printing Process Operation



#### Charge

In the dark, the Bias Charge Roller (BCR) applies a high, uniform negative charge to the surface of the OPC Drum. The surface potential is approximately -650 VDC and remains because the drum has a high electric resistance in the dark.

#### Exposure

A portion of the laser beam is deflected to the timing sensor [Beam Detection (BD) Sensor], which controls the start timing of scanning on the OPC Drum. The CPU also uses the timing sensor to detect abnormal signals. The light beam from the laser diode is modulated by the digital signal (nVIDEO) and converted to parallel light waves by the collimator lens. The beam is then directed to the rotating polygon mirror, where it is reflected to the f- $\theta$  lens and then focused onto the OPC Drum surface. The laser beam moves across the surface of the OPC Drum in the scanning direction. Where the laser beam is applied, the negative charge on the drum dissipates, and where the laser is not applied, the negative charge remains. This action forms a latent, electrostatic image on the OPC Drum, corresponding to the original image.

#### Development

This development process uses a conventional method, where toner coats a Development Roller and transfers to the latent image on the OPC Drum. In the Toner Cartridge, the (mono-component) toner is negatively charged by the friction between the rotating Development Roller (Mag Roller) and the Developing Blade. This combination and the rotation of the Mixing Blade transfers the toner from the reservoir and forms a brush effect on the Mag roller. Where the magnetic brush lightly touches the OPC Drum, the negatively charged toner is attracted to the latent image on the drum, forming a mirror image of the original on the drum. Any remaining toner is removed from the Mag Roller by the Developing Blade and is recycled back into the toner reservoir. A bias voltage of approximately 1.7 kVACp-p at 1.7 kHz, riding on a -500 VDC bias is applied to the magnetic brush to achieve maximum print quality.

#### Transfer and Separation

As the paper is fed between the OPC Drum and the Bias Transfer Roller (BTR) (630), a positive charge of approximately +600 VDC (+3  $\mu$ A steady current) is applied to the backside of the paper by the BTR. The toner particles are attracted away from the drum towards the surface of the paper. During cleaning, the BTR is charged to approximately -800 VDC to repel toner on the OPC Drum and prevent toner from being attracted to the BTR. After transfer has occurred, the paper passes over the Discharge Plate (617) in the Plate Discharge Guide (616), reducing the difference of potential between the OPC Drum and the paper. The stiffness of the paper causes the paper to separate from the drum.

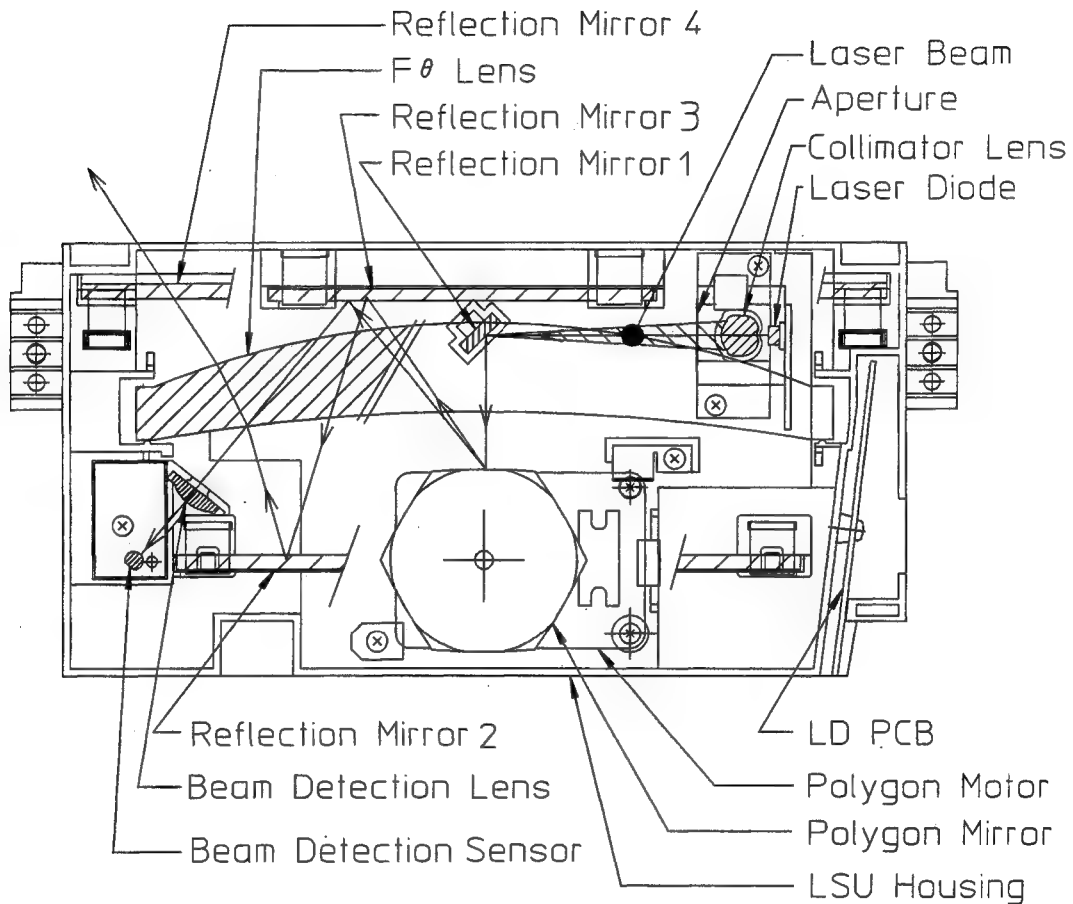
## Cleaning

After transfer, some toner may remain on the surface of the OPC Drum. A Cleaning Blade scrapes the OPC Drum surface, and the removed toner is moved into the Toner Waste Box, inside the Toner Cartridge.

## Fusing

After separation, the paper passes through the Fuser Rollers and is subjected to heat and pressure in the Fuser Unit (431). Pressure between the Fuser Roller (414) [heated internally by the Fuser Lamp (408) to approximately 190°C (±10°C) (or 374°F)] and Pressure Roller (409) fuses or bonds the toner into the paper.

## Laser Unit



## Laser

A 5 mW Laser Diode, with a wave length of 780 nm (±20 nm), provides a modulated beam controlled by nVIDEO. The beam power on the drum surface is approximately 0.23 mW, and is controlled by the monitor circuit.

## Collimator Lens

This lens converges and focuses the laser beam, converting it to parallel light.

## Aperture

This controls the size of the laser beam.

## Polygon Mirror and Motor

The polygon scanner consists of a 6-sided mirror, directly driven by a Polygon motor, revolving at 10,000 rpm. The laser beam is reflected against these mirrors and swept over the recorded width in the scanning direction. This unit features a stable line scanning speed, a precision mirror reflection angle, a reflection free surface, and instant start.

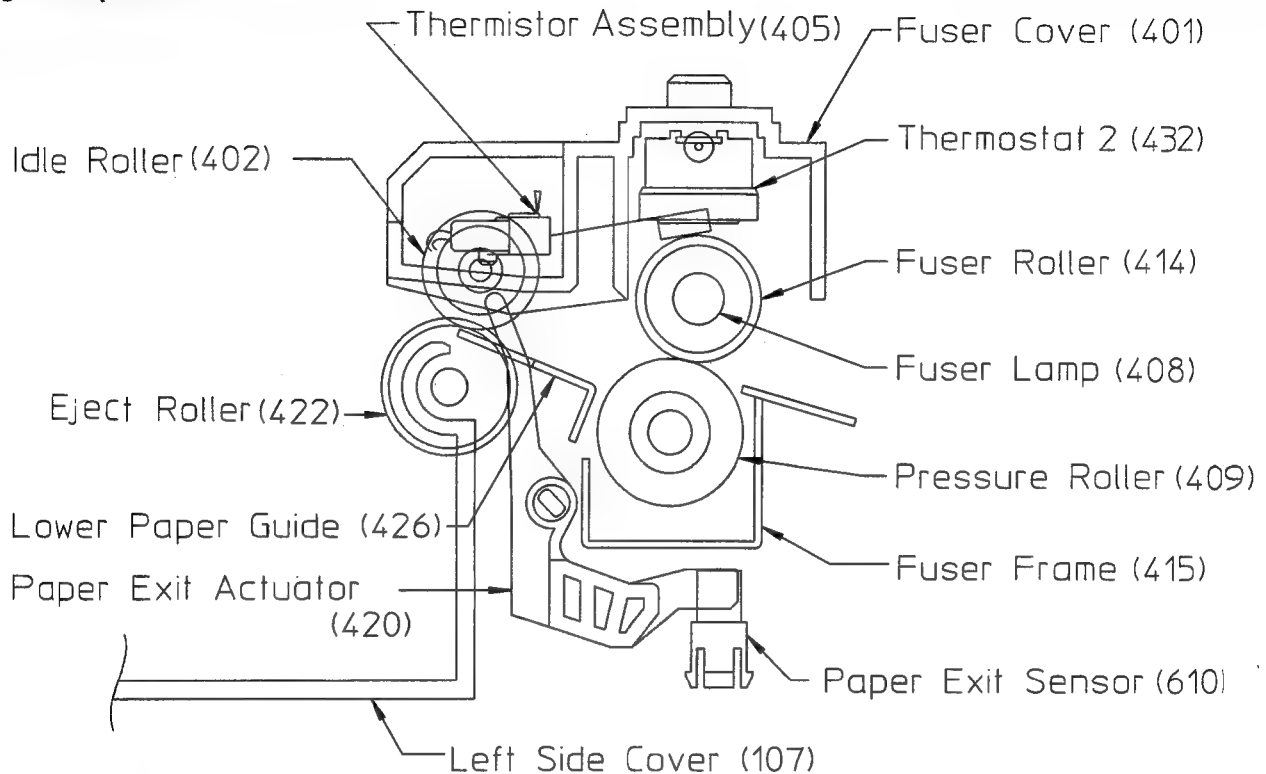
## Beam Detection (BD) Lens and Beam Detection (BD) Sensor

The BD Lens receives the reflected light from the Polygon Mirror and redirects it into the BD Sensor, which converts the laser beam into electrical signals and sets the start timing for the scanning line.

### f-θ lens

This amorphous plastic, molded lens is designed to provide parallel laser light across the surface of the drum, providing a constant scanning speed.

## Fusing and Paper Exit



### Fuser Unit (431)

The Fuser Unit, consisting of the Fuser Lamp, Fuser Roller, Pressure Roller, Thermistor, and Thermostat, bonds the toner into the paper using heat and pressure.

### Fuser Lamp (408)

Located in the Fuser Roller is a Halogen lamp that serves as the heat source for the Fuser Roller.

### Fuser Roller (414)

A Teflon coated roller supplies the heat for bonding the toner to the paper. The temperature of the surface is kept constant at approximately 190°C (±10°C) (or 374°F).

### Pressure Roller (409)

This converted PFA tube Silicon Rubber Roller applies pressure to the Fuser Roller, assisting in bonding the toner to the paper.

### Thermistor Assembly (405)

The Thermistor, a heat sensitive resistor, in contact with the Fuser Roller, monitors the surface temperature. The temperature detected is used to control the ON/OFF switching of the Fuser Lamp. It also acts as the primary overheat prevention device. A comparator circuit on the FCB PC Board acts as a secondary overheat protection and becomes active at approximately 200°C (392°F).

### Thermostat 2 (432)

A Thermostatic Fuse, part of the power line for the Fuser Lamp, provides an extra overheat protection by opening when the Fuser Roller surface temperature reaches 230°C (446°F) and remains there for 1 minute. If the primary and secondary overheat protection does not halt the rise in temperature, the thermostat opens, removing power from the Fuser Lamp. When the Thermostat opens, it must be replaced.

**Paper Exit Sensor (610)**

This sensor detects the presence of printed paper at the exit. If no paper passes, or if paper is over the sensor too long, a "RECORDING PAPER JAM" message is displayed. When paper passes over the sensor, the output is Low (Low Active).

**Thermal Fuse (433)**

It is placed in series with the Thermostat on the power line of the Fuser Lamp and performs the tertiary overheating prevention (in case the Thermostat fails) by opening when the surrounding temperature reaches approximately 216°C (420.8°F).

**Drive Assembly and Toner Cartridge**

The **Drive Assembly**, consisting of the Printer Motor (650) and the drive mechanisms, is activated by coupling and gear arrangements. The **Toner Sensor** (639), a magnetic sensor, detects the remaining quantity of toner in the Toner Cartridge. When the "TONER" lamp starts to blink, there is still enough toner left in the cartridge to print 100 pages (based on ITU-T Image No.1). When toner has run out the display will show: "OUT OF TONER & INFO CODE 041" and the machine is disabled from printing any copies. The **Toner Cartridge** consists of OPC Drum, Bias Charge Roller, Development Roller, Developing Blade, Cleaning Blade, Mixing Blades and Toner Waste Box. The **OPC Drum** is an aluminum cylinder coated with an OPC (Organic Photo Conductor) sensitive material. This surface is photoelectric (retains the charge in the dark and releases the charge in the light). The potential differences on the surface (a static latent image) form a printed image. The **Bias Charge Roller** provides a uniform charge on the OPC Drum surface. The **Development Roller** supplies toner to the drum by rotating over the magnet. The **Developing Blade** evens the toner on the Development Roller surface and also charges the toner by friction. The **Cleaning Blade** cleans by scraping the remaining toner off the OPC Drum surface after transfer.

**6.1.4 Covers and Enclosures**

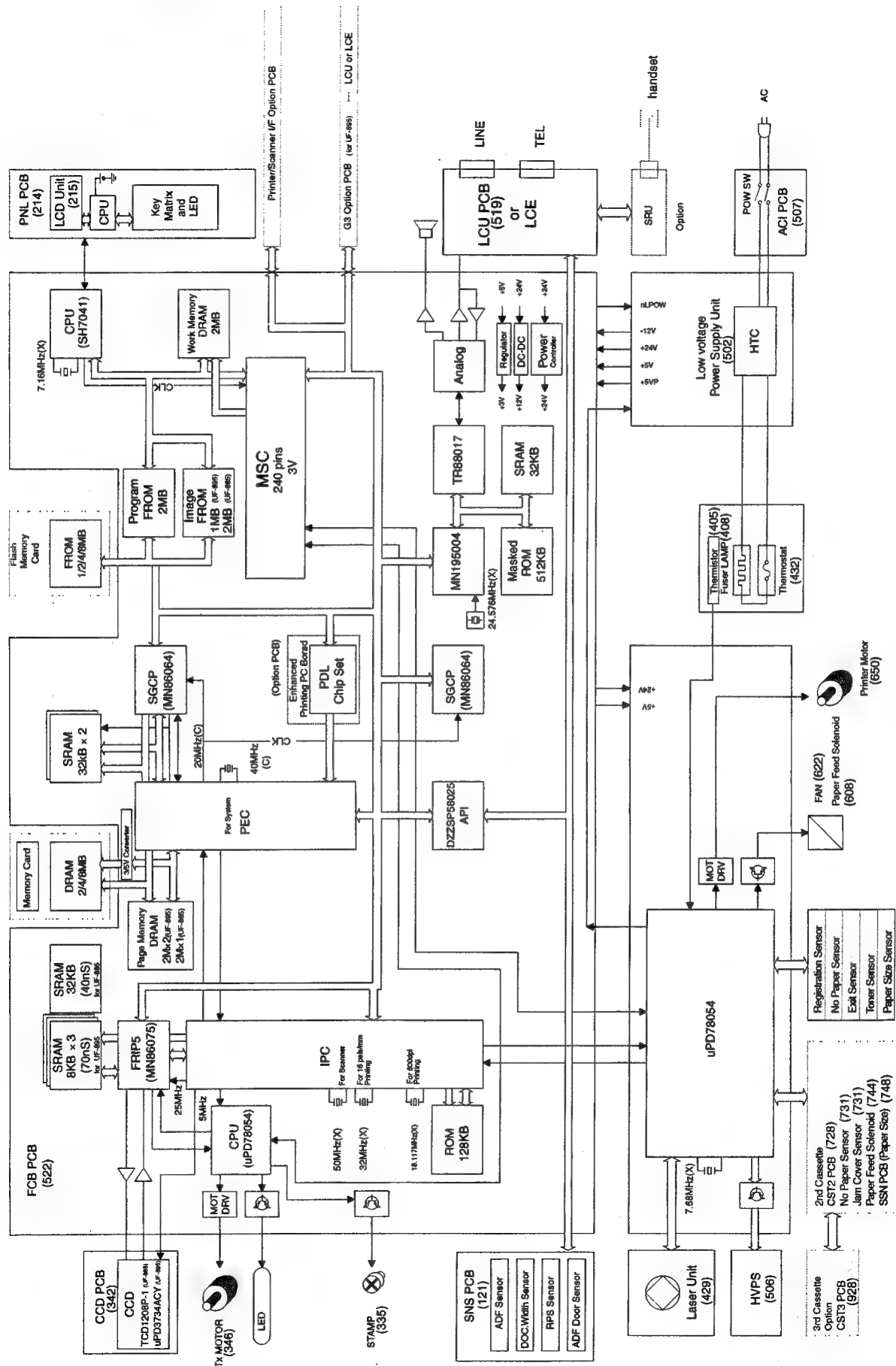
The Paper Guide Cover (110) contains Paper Guides (111), (112), which adjust to the paper width to properly feed the original documents. The **Front Cover** (105) has a Speaker (133) mounted inside. The **Rear Cover** (108) shields the circuit boards. The Printer Cover (122) contains the Document Sub Tray (124), used to support legal size documents. The Left Side Cover (107) shields the Fuser Unit.

**6.1.5 Control Panel**

The Control Panel consists of the Panel PC Boards (214) and LCD Unit (215), which displays the various status messages, and a membrane-type panel.

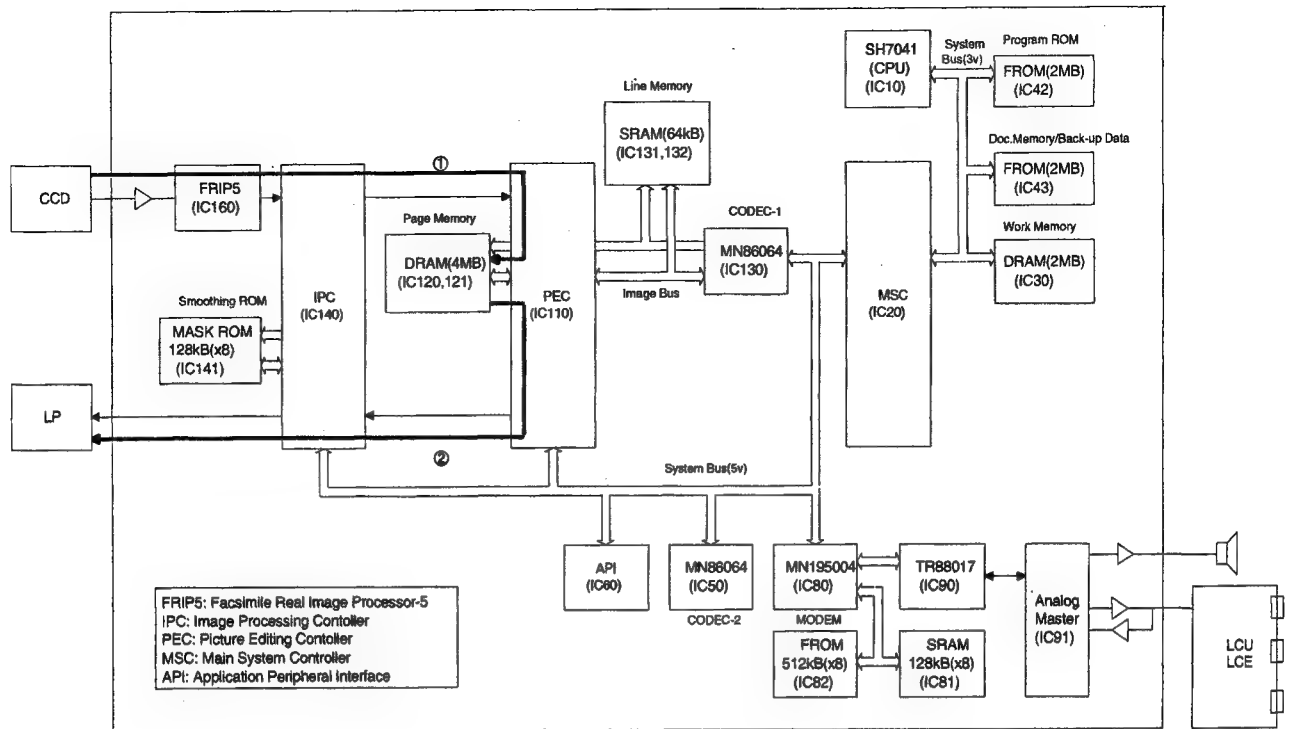
## 6.2 Electrical Circuit Explanation

### 6.2.1 Fax Block Diagram

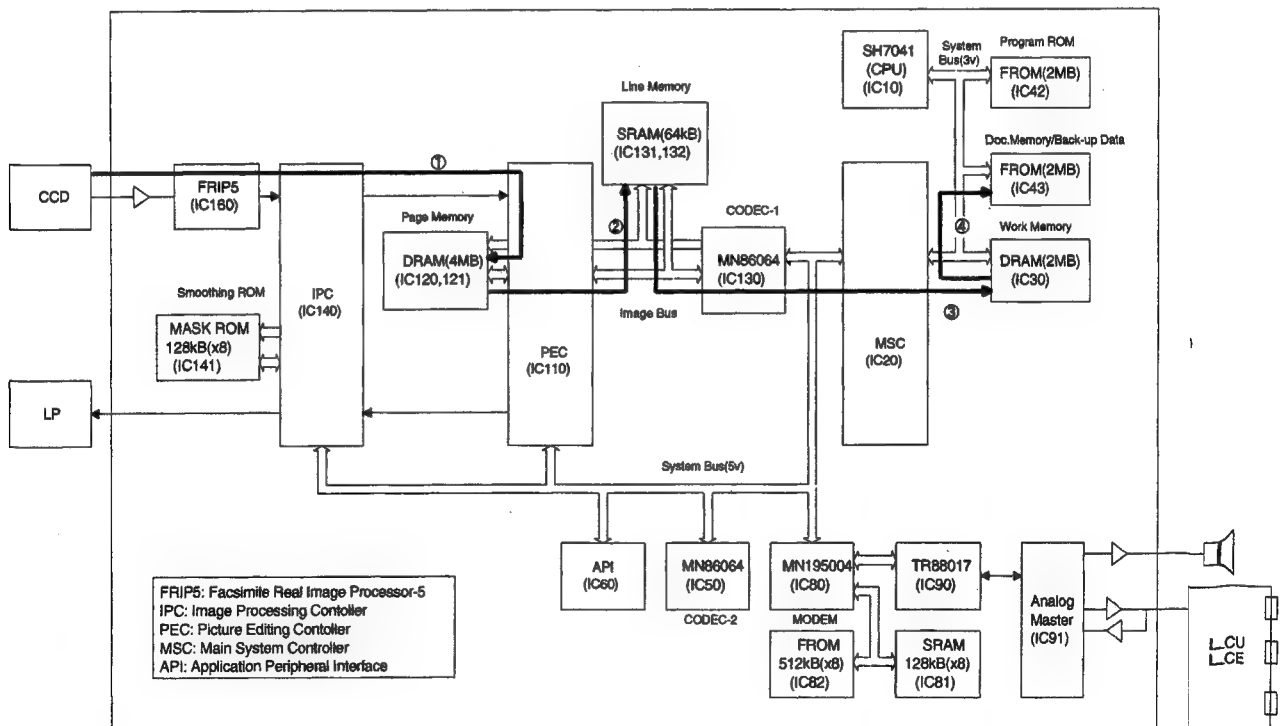


## 6.2.2 Signal Routing

### Single Copy

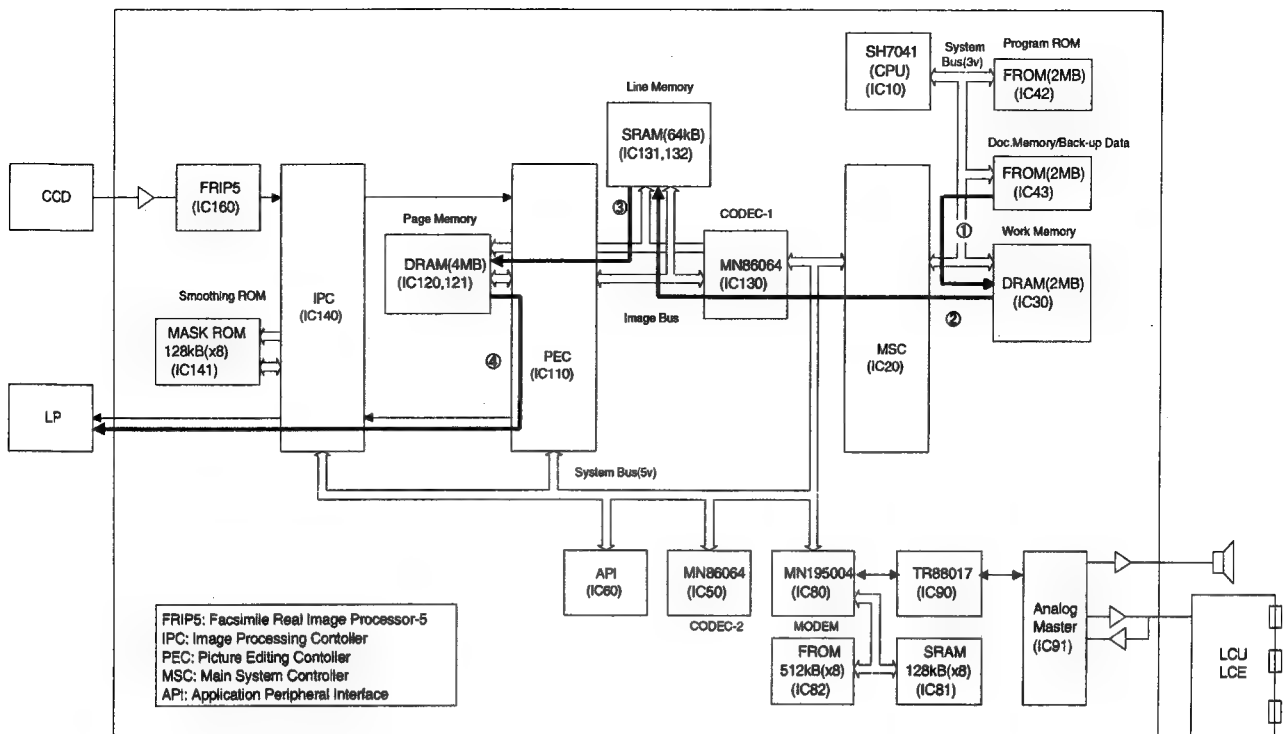


### Scan into Memory

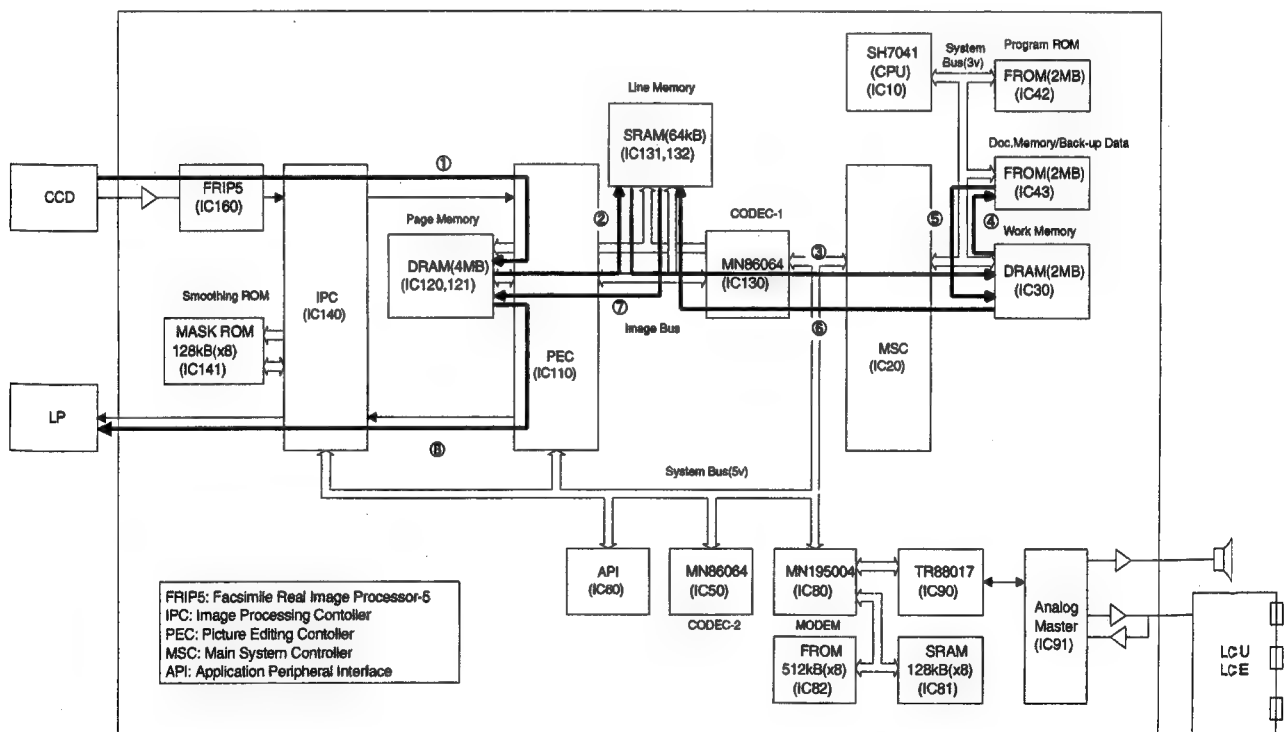




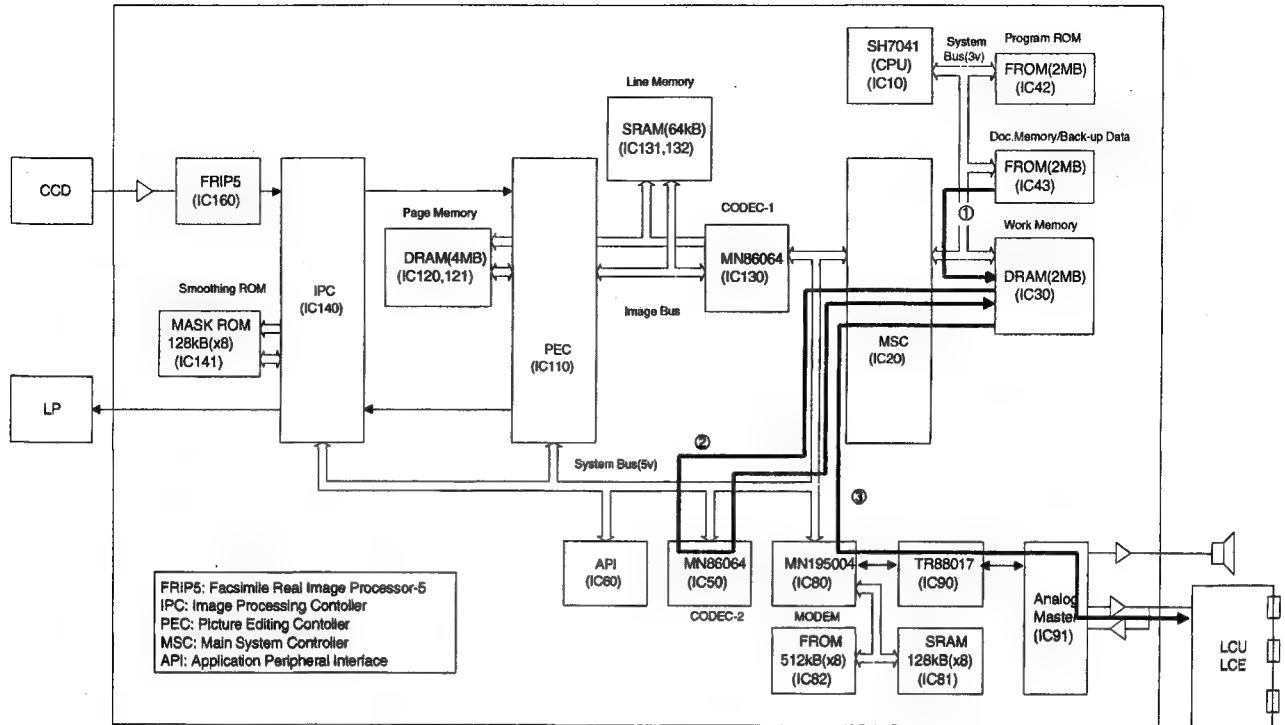
## File Print From Memory



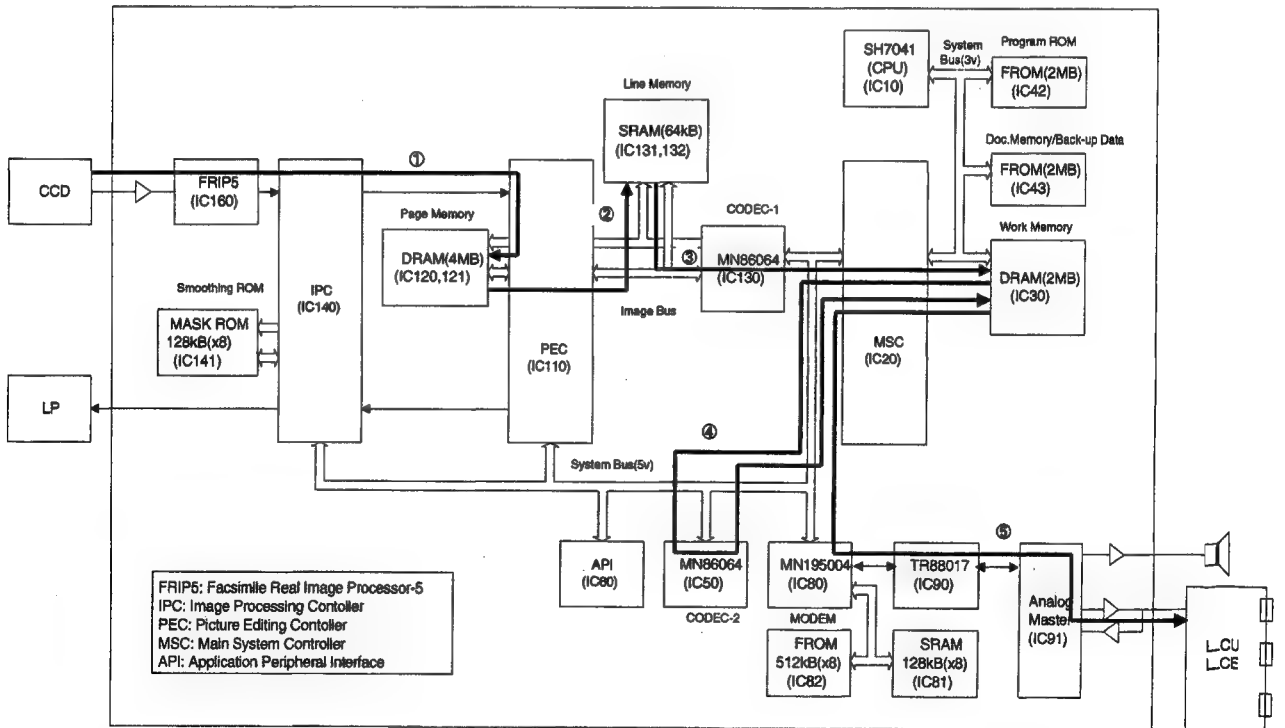
## Multiple Copy



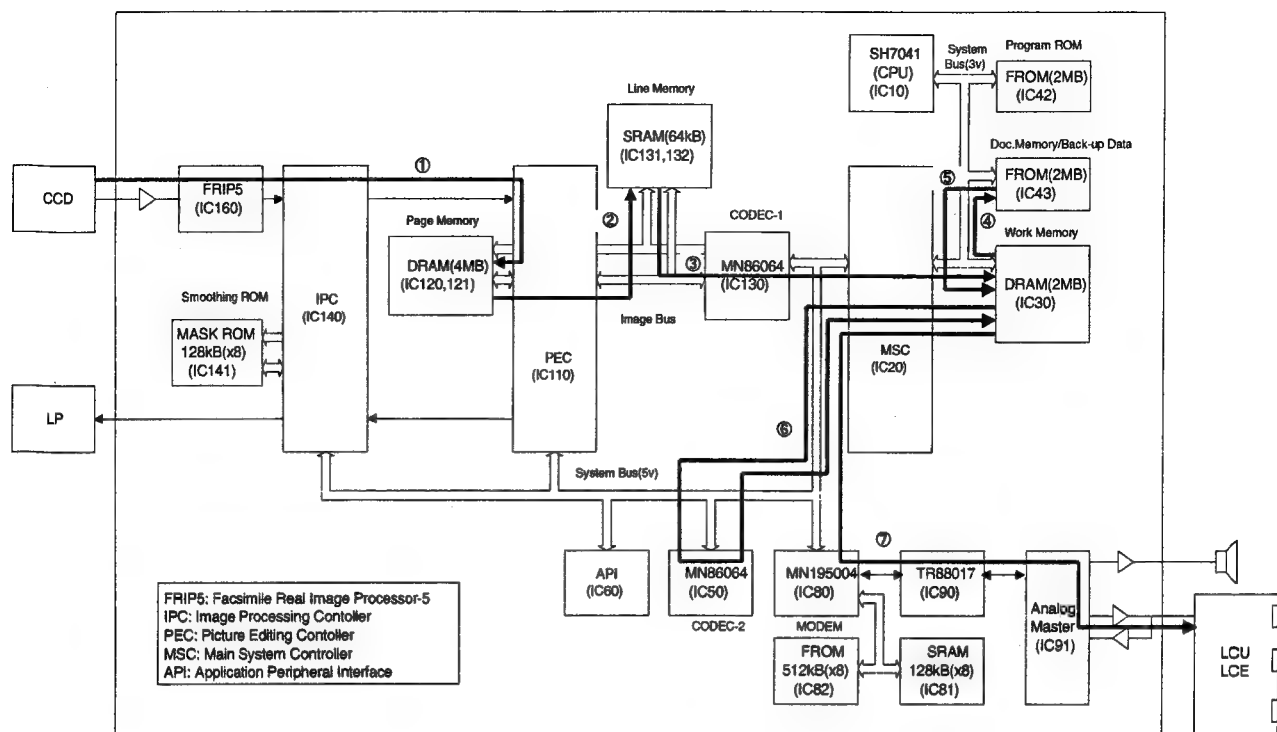
## Memory Transmission



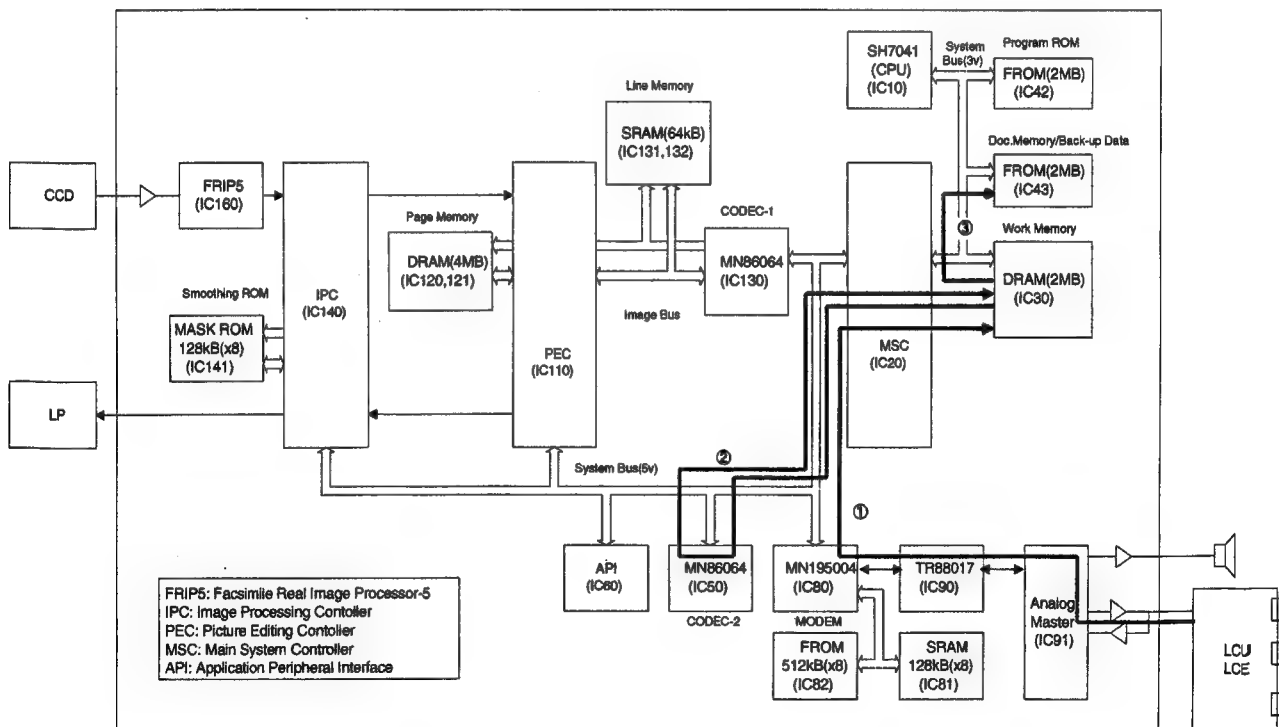
## ADF Transmission



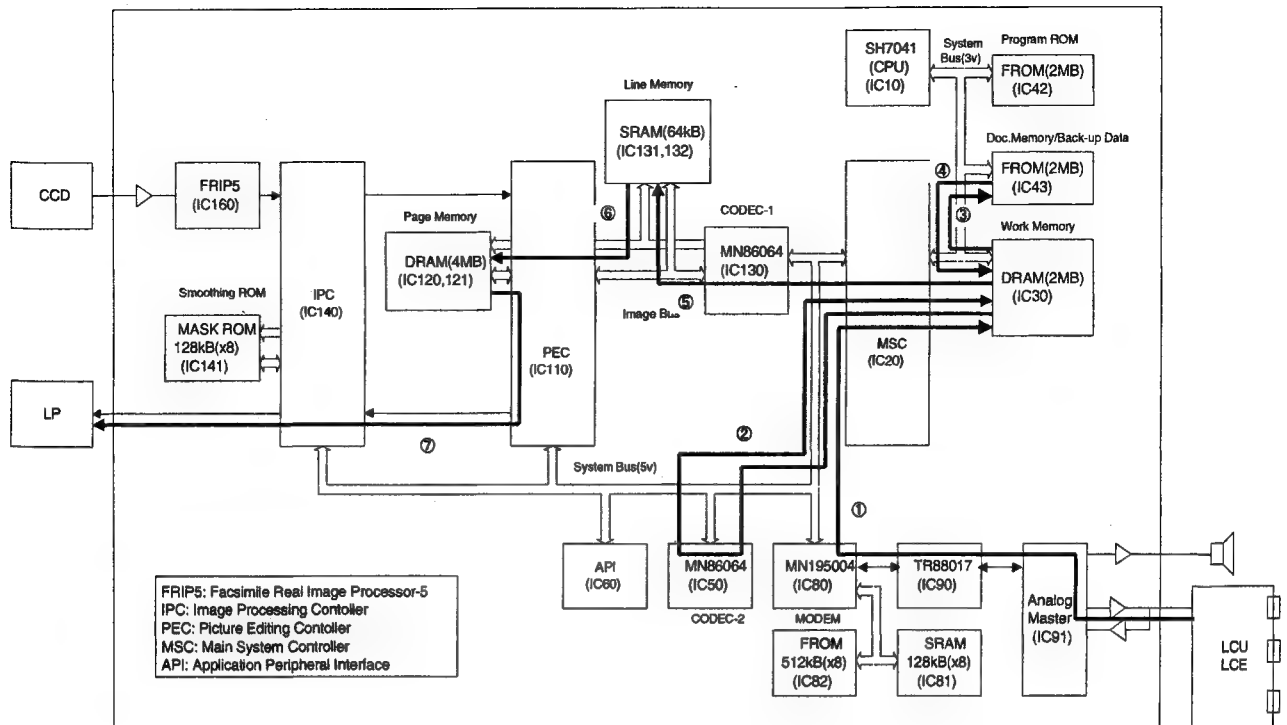
## Quick-Scanning Transmission



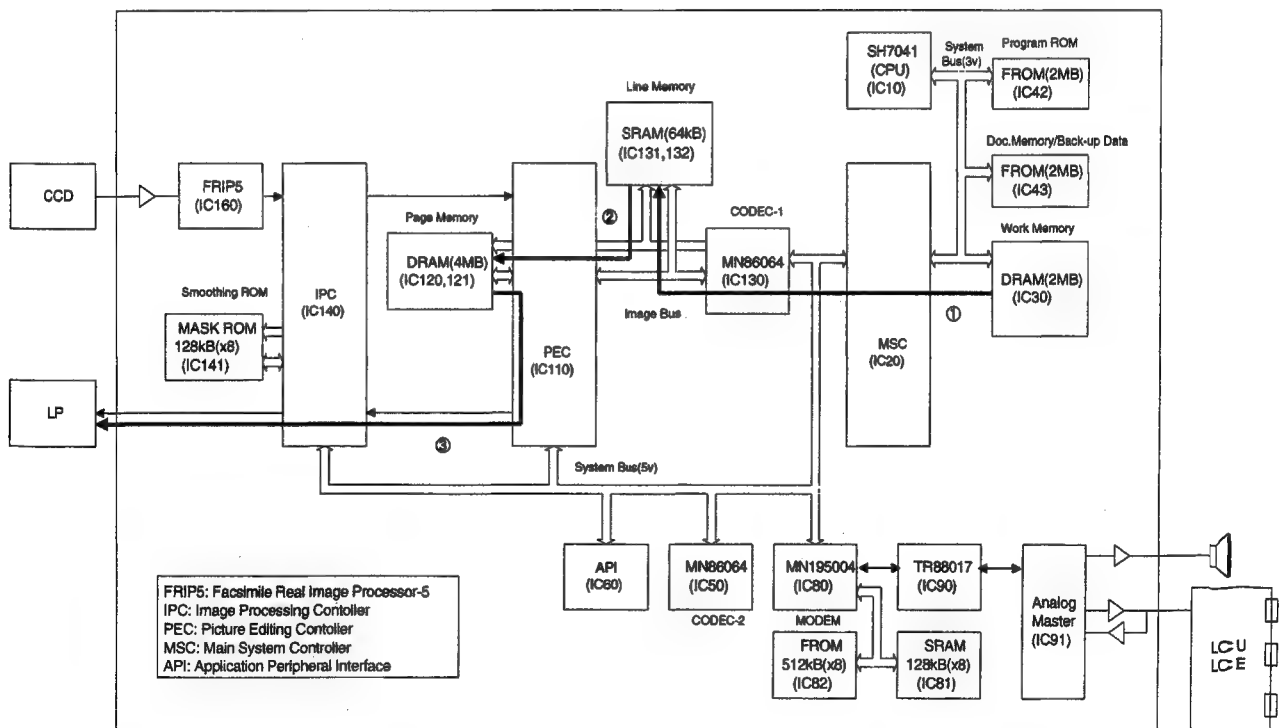
## Memory Reception



## Direct Reception

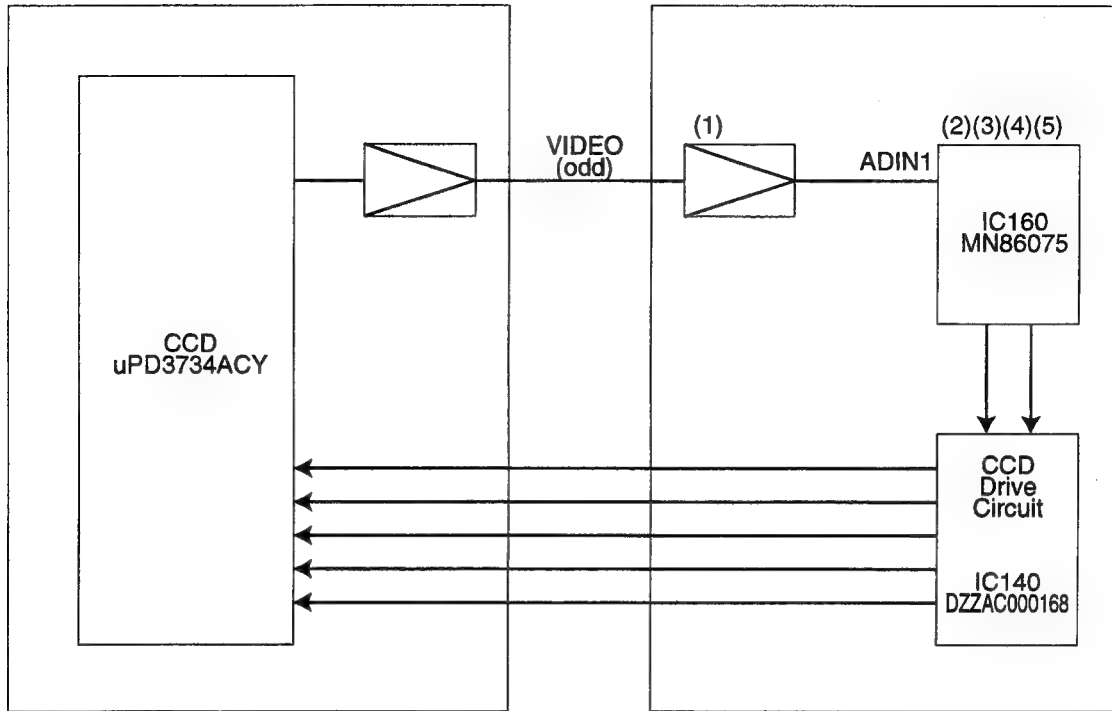


## Report/List Printing



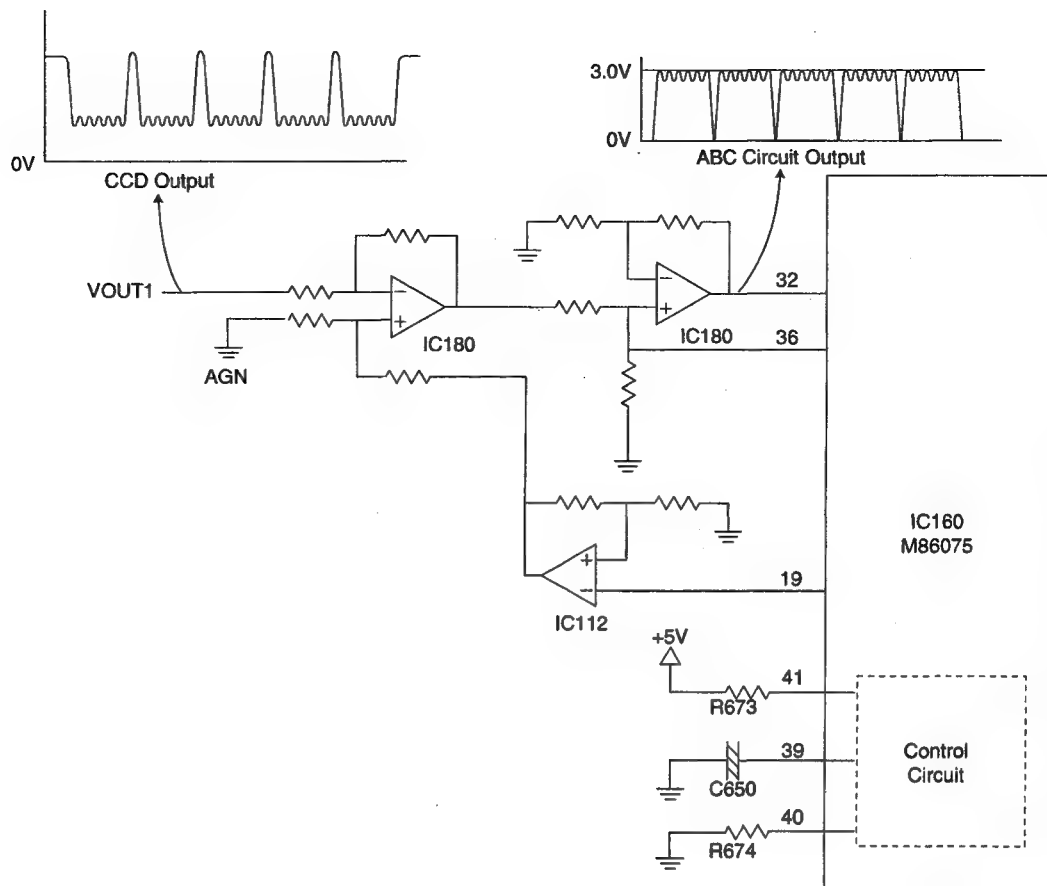
### 6.2.3 Picture Signal Scanning Block

The image data read by the optical unit is input to the CCD mounted on the CCD PC Board, then transferred to the FCB PC Board after the optical information is converted into an electrical signal by the CCD. The following shows a block diagram of the picture signal scanning circuit. This picture signal scanning circuit consists of (1) ABC circuit, (2) shading correction circuit, (3) offset control circuit, (4) picture signal binary coding correction circuit and (5) reducing circuit.



#### ABC Circuit

This circuit consists of IC180, IC160, C650, R673 and R674. Its function is to prevent deterioration of picture quality due to dirt on the document or degrading of the luminous energy of the LED light source. The picture signal from the CCD is amplified in IC180 and input to IC160, where it is converted from analog to digital and the shading is corrected. When the signal exceeds +3.0V as the result of this amplification and correction, capacitor C650 is charged through R673. This charging voltage lowers the level of the picture signal input to IC180. When the picture signal voltage rises, this charge voltage becomes higher. When the picture signal level lowers due to the background color, etc., of a transmitting document, the voltage of the charged capacitor C650 is discharged through R674. Consequently, the output of the ABC circuit is kept constant to maintain the picture quality, regardless of changes in the CCD output level.



### Shading Correction Circuit

The Shading Correction Circuit, included in IC160, is provided to correct for reduction in LED lamp intensity around the optical lens and LED lamp intensity distortion due to shading of each bit. This circuit scans the reference white on the transmitting document plate immediately before the document reaches the scanning position and writes a compensation value according to the distortion of the waveform, at the time, into the S-RAM (IC170, IC171, IC172). When the actual picture signal is input, the circuit corrects the picture signal shading, according to this compensation value. This shading is carried out for each page during transmission or copy.

### Offset Control Circuit

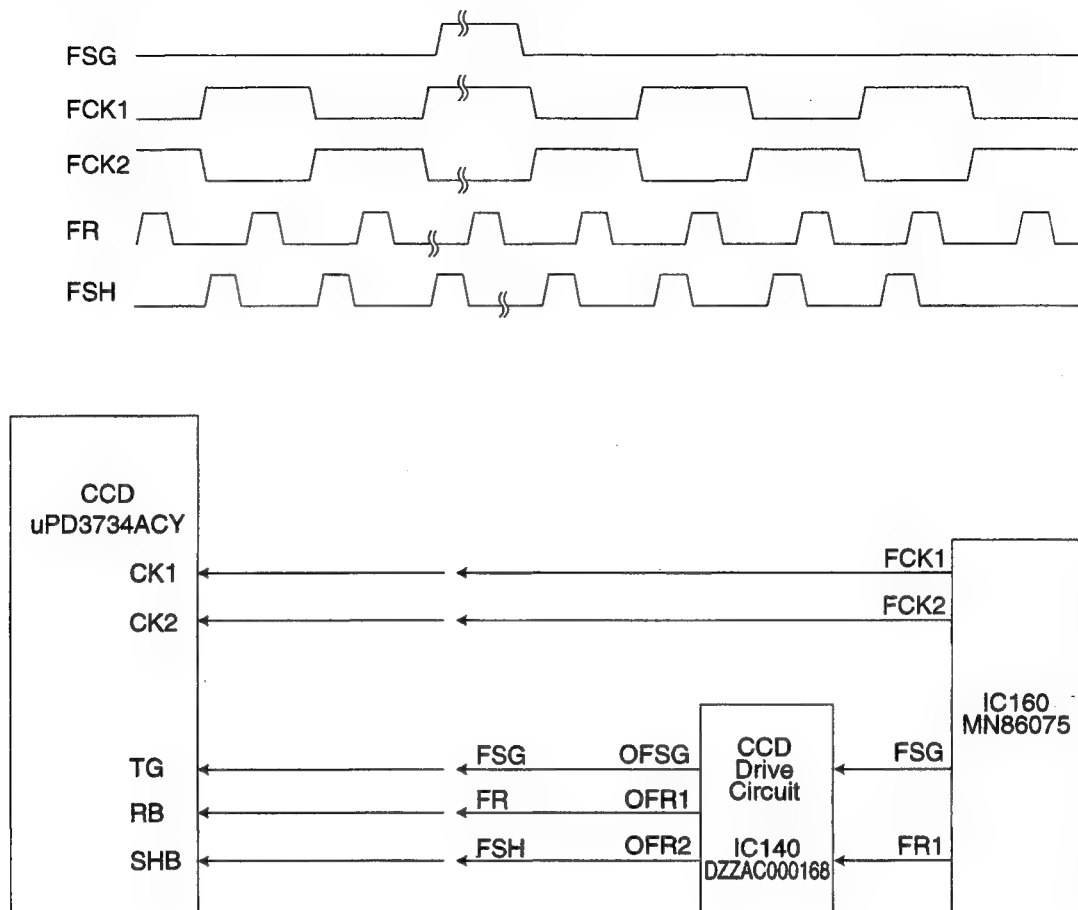
The Offset Control Circuit consists of IC161, IC160 and IC118, and controls the black level of the CCD output to be at 0V by using the IC118.

### Picture Signal Binary Coding Correction Circuit

The Picture Signal Binary Coding Correction Circuit is included in IC160. It is used to obtain a binary coding signal which is a corrected picture and error diffused signal of a false halftone signal, which is detected from a shaded picture signal.

## 6.2.4 CCD Drive Clock Generator Circuit

This circuit is also contained in IC9. Its function is to generate FSG, FCK1 and FR clock signals, which are required for driving the CCD. These clock signals are generated by the system clock generator circuit derived from the 25.0 MHz clock signal that is input to IC160. Its timing chart is shown below. The FSG, FCK1, FCK2, FR and FSH clock supplied to the CCD is output from the OFSG, OFCK1, OFCK2, FR and FSH of IC40 (DZZAC000108). These clocks of IC40 are derived from the FSG, FCK1, and FR clock of IC160 (MN86075) generates the timing of the FSG, FCK1, FCK2, FR and FSH clock to drive the CCD.



## 6.2.5 Picture Quality Control Circuit

This circuit consists of a recording picture control standard cell IC140 (DZZAC000168 or "1PC"), an interpolation table ROM (IC141) and its peripheral circuitry. The recording picture control standard cell (IC140) inputs the serial data from the IC110 (DZZAC000167 or "PEC"), conducts picture quality correction (smoothing), reduction, synchronization control, etc., then sends this data to the printer. These functions are as follows:

### Picture quality correction circuit (smoothing)

Compares the picture element with 15 surrounding picture elements, determines the interpolation data from the interpolation data ROM, and smooths out diagonal lines, etc., on the recorded picture.

### Image range isolation circuit

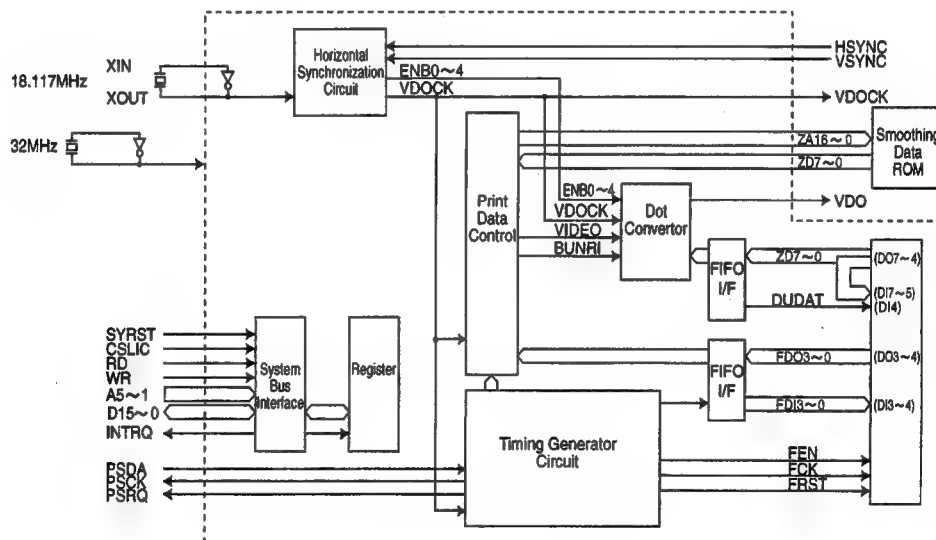
Identifies the halftone picture range and controls smoothing to eliminate blotching of the recording picture which has undergone error diffusion or other processing.

### Reduction circuit

This circuit is used to process the received data so that it fits on the recording paper, according to the Fax Parameter settings.

### Synchronization control circuit

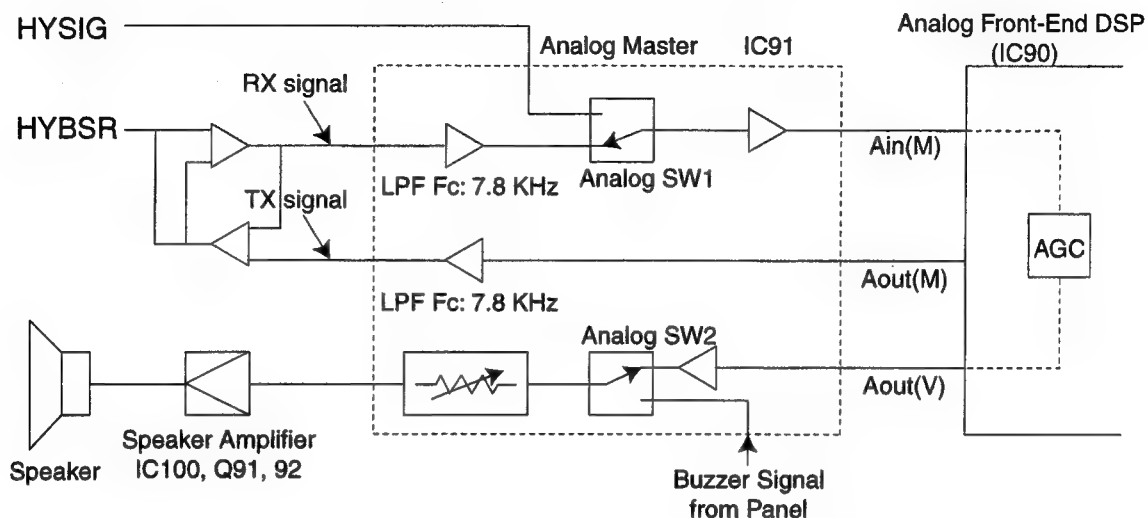
This circuit is used to synchronize the output recorded data with the horizontal synchronizing output signal from the printer for each line. Within a line, it is synchronized with the dot clock signal. The dot clock signal is provided by dividing the crystal oscillator frequency from the Extend Generator Circuit (32 MHz : 16 x 15.4, 18.117MHz : 600dpi) by 5.





## 6.2.6 Line Monitor Circuit

The Line Monitor Circuit consists of an operational amplifier (IC100), analog master (IC91) and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the Ain (M) passes through an AGC circuit and is conditioned by the Analog Front-End DSP (IC90) and is then input to the Analog SW2 for volume control. The signal is then input to the Speaker Amplifier (IC100, Q91, 92), where it is amplified to a level sufficient to drive the speaker. The key touch tones and Buzzer Signals from the panel are input to the Analog SW2 for volume control and then input to the Speaker Amplifier. The monitor tone from the phone line and the buzzer tone from the panel can be adjusted from the Control Panel.

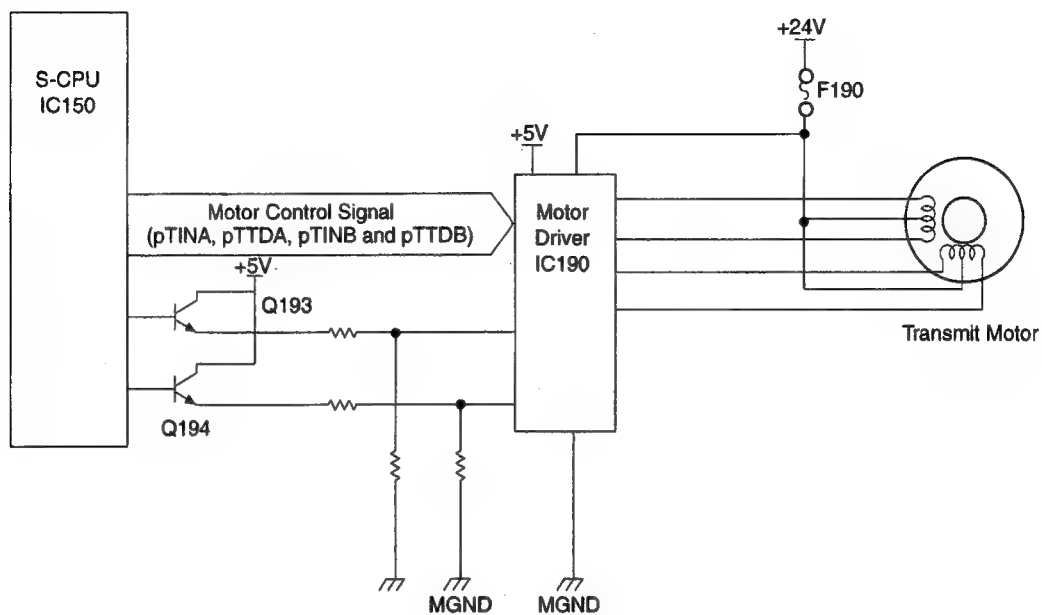


### 6.2.7 Transmit Motor Control Circuit

The transmit motor is a stepper motor powered by +24 VDC and driven by a 1/2-phase excitation, greater step division is provided by controlling the phase circuit in steps.

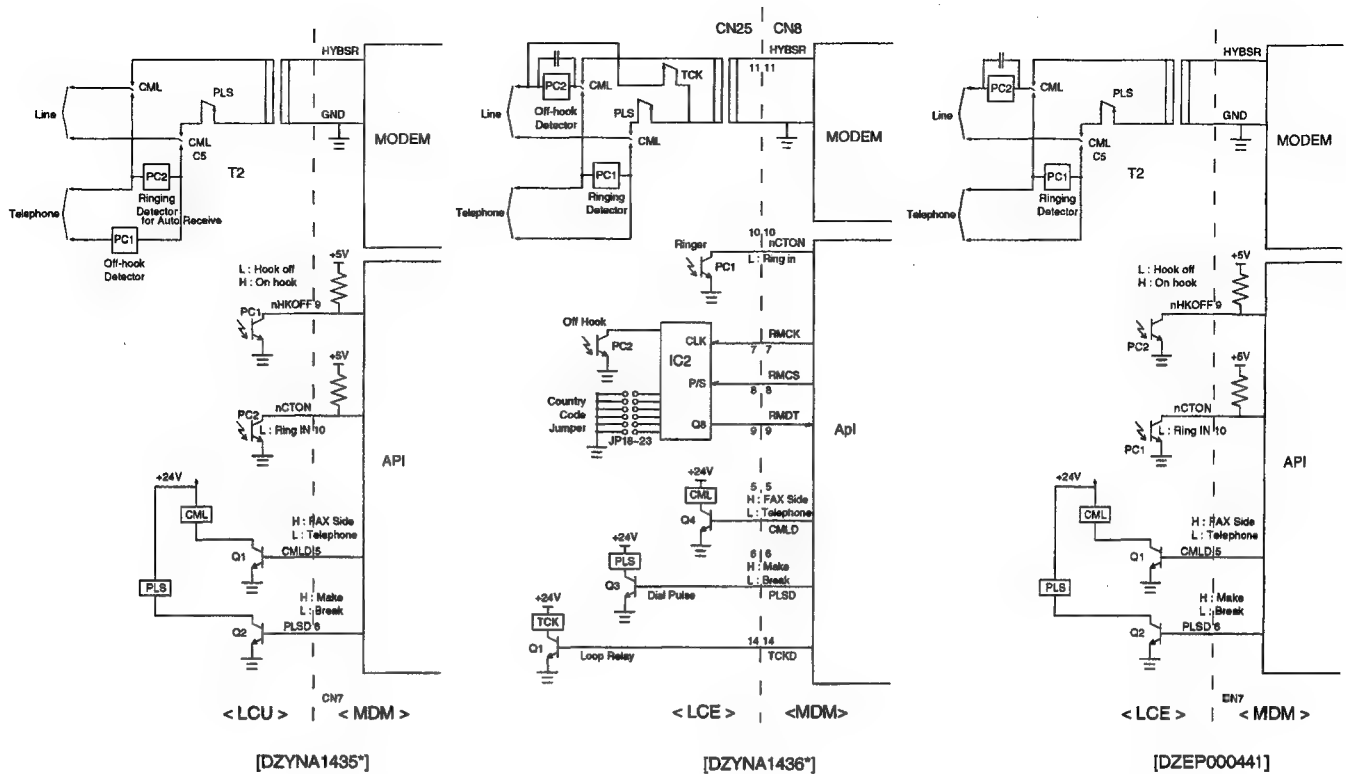
The stepping signal and chopping current control signals (pTINA, pTTDA, pTINB and pTTDB) are sent to the chopper drive circuit, comprised of IC190 and its peripheral circuitry, from the IC150 (S-CPU) output port.

Tx Motor Driver Circuit Block Diagram



## 6.2.8 Line Control Board

The following shows a block diagram of the Line Control Board.

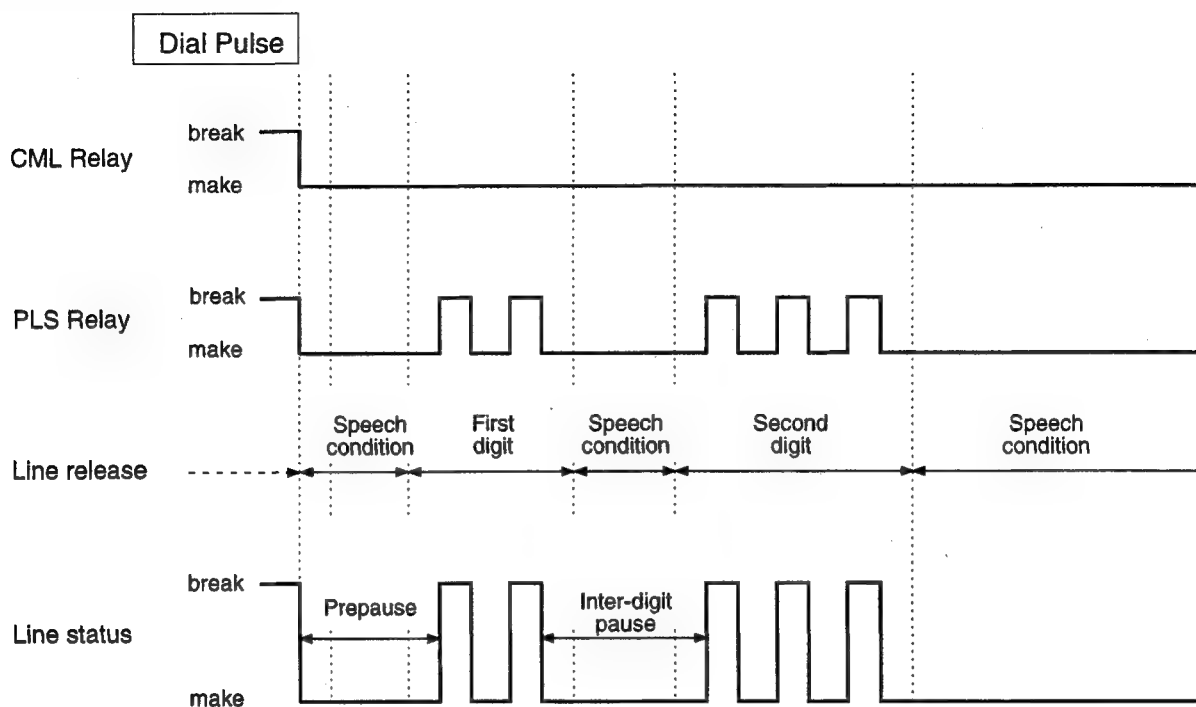


The **Ring Detector** consists of a photocoppler, PC2 (PC1 for LCE), and its peripheral circuits. The ringing signal is half-wave rectifier in the Ring Detector, and transferred through the nCTON signal line to the IC80 on the FCB PC Board. The IC80 observes the signal to distinguish from signals caused by chattering.

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoppler, PC1 (PC2 for LCE), and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the IC80 which monitors it for a specified time. If the IC80 detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.

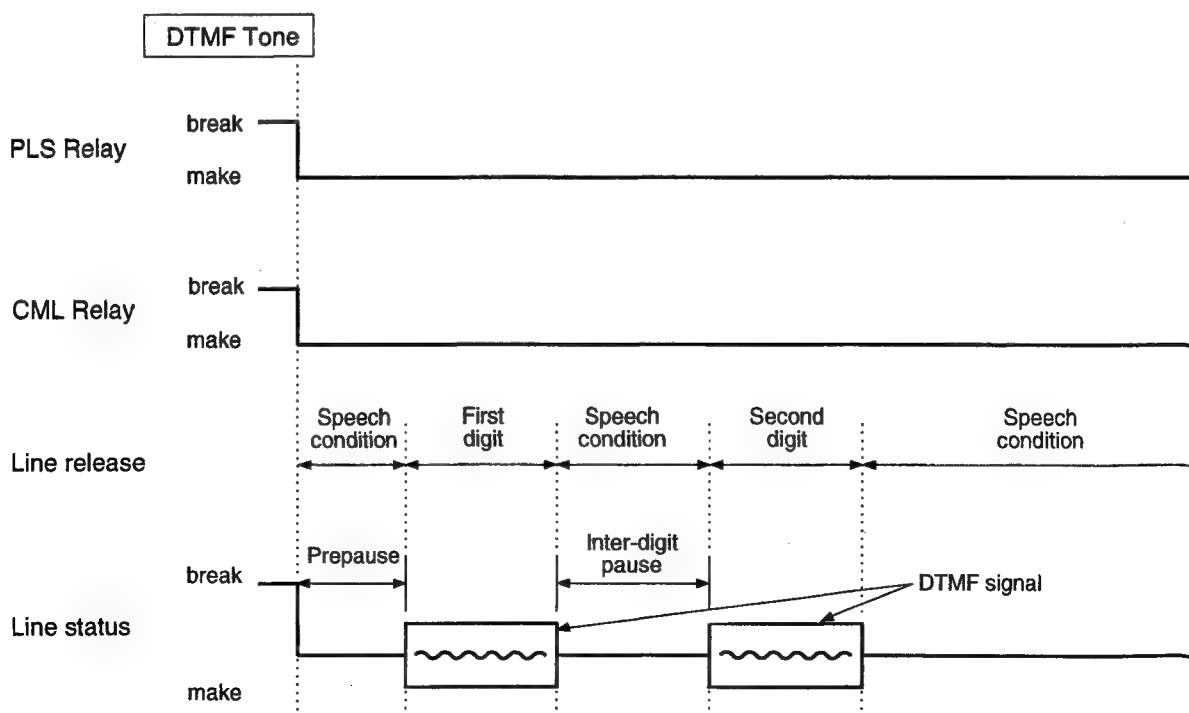
## Dial Pulse Generator

The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The CPU on the FCB PC Board controls all dial pulse generation sequences. It turns relay CML and PLS ON and OFF through the DZZSP58025 (IC80). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the CPU turns CML relay ON to develop loop status (DC loop). After a few seconds, the CPU turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.



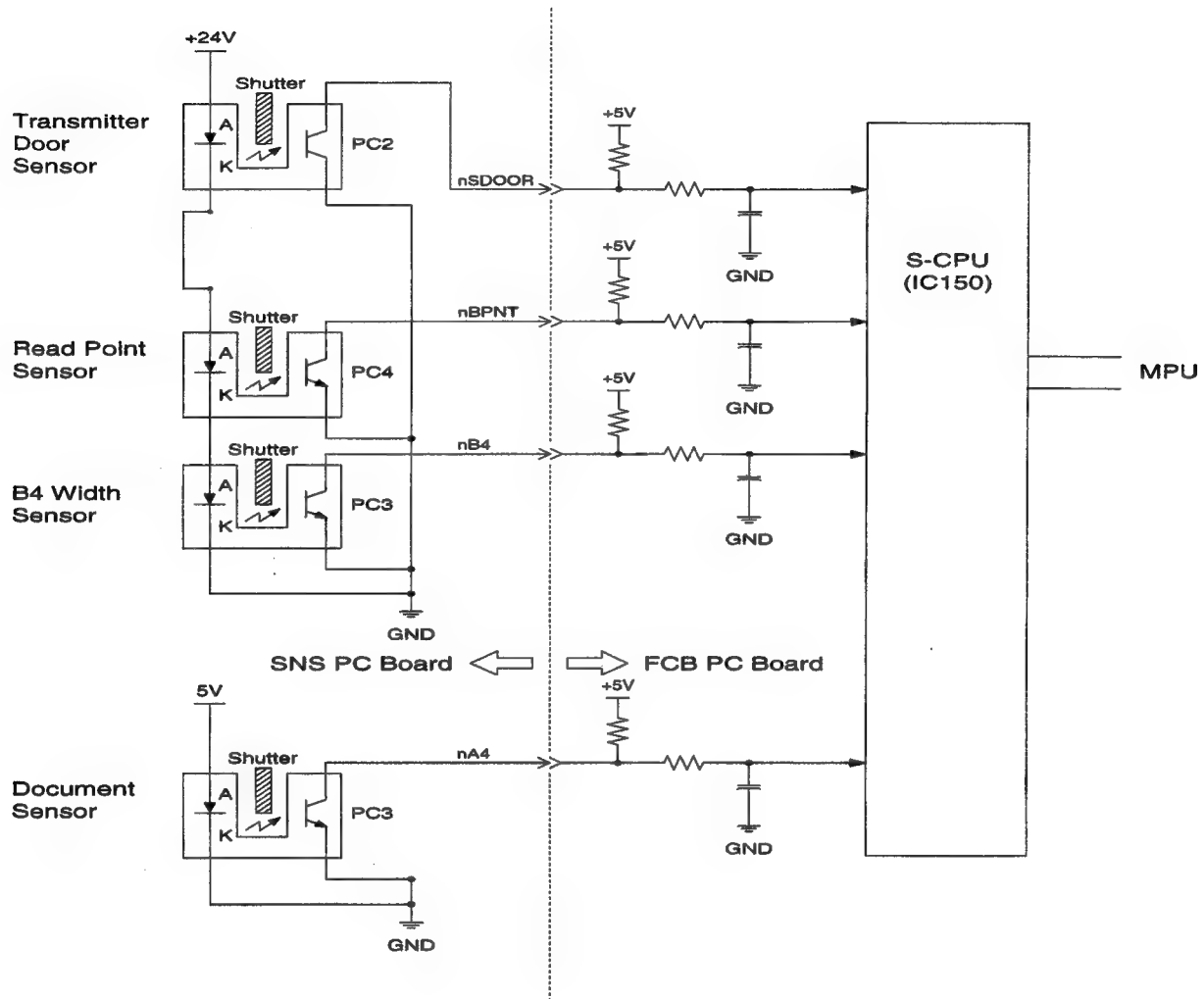
## DTMF Tone Generator

The circuit is incorporated in the MODEM on the FCB PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the CPU. The relay status during dialing is shown below.



## 6.2.9 SNS PC Board

Each sensor consists of an LED and phototransistor. When documents are placed on the ADF tray or are moving, a shutter in the document sensor closes. The light path from the LED is blocked turning the phototransistor "OFF", and the output voltage from the sensor becomes a "High" level. With no document on the ADF tray, the shutter opens the light path, and output from the sensor is kept at a "Low" level. Operation of the RP Sensor is opposite to the ADF Sensor. When the leading edge of the document reaches the RP Sensor, the shutter opens and the output voltage becomes a "Low" level. Then, the shutter closes and the output becomes a "High" level when the lagging edge of the document clears the RP Sensor. The Tx Door Sensor operation is the same as the ADF Sensor, the output from the sensor is kept at a "Low" level when the door is closed and becomes a "High" level when the Tx Door is opened.



## 6.2.10 Control Panel

The Control Panel consists of the Display PCB and Panel Unit, which display various status information. It is normally interfaced to the main CPU. Keyed input signals are received by the Panel CPU and the data is transferred to the main CPU on the FCB PC Board.

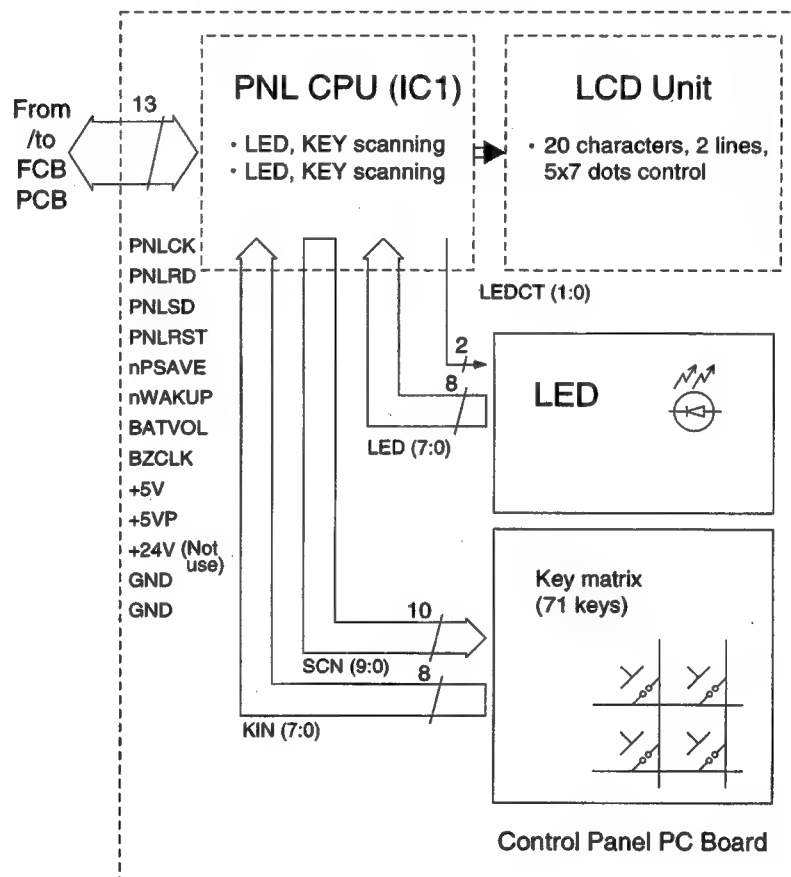
The Control Panel performs the following processes simultaneously:

- Key inputting
- LED, LCD display
- Data transmission / reception

Interface to main CPU

The interfacing between the main CPU and the panel CPU are all executed with commands and responses in the following two formats:

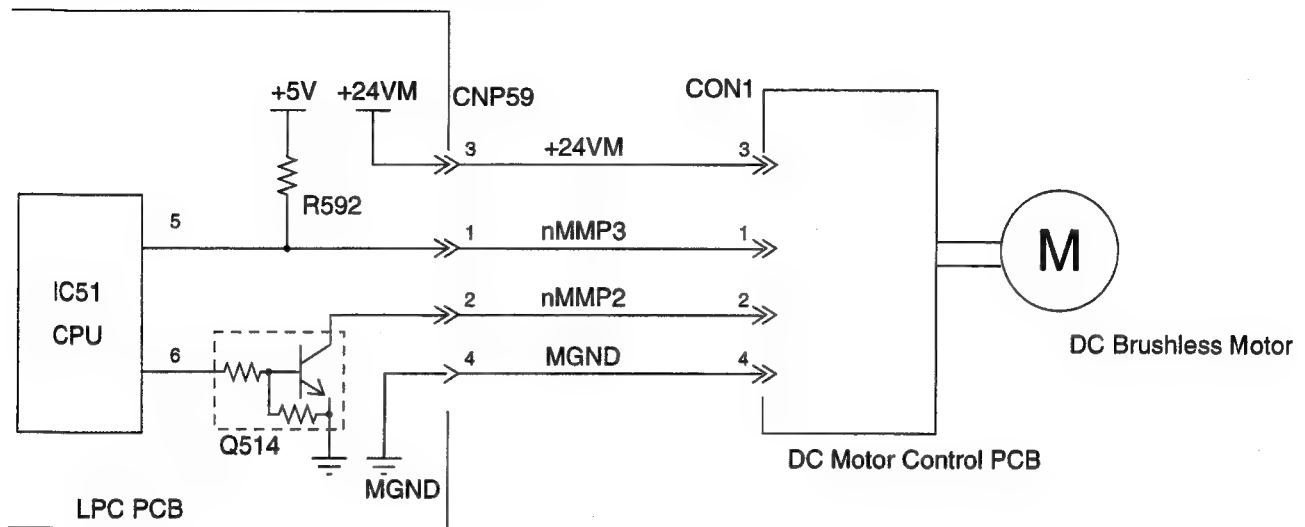
- Command / response (1 byte) + number of data + check sum
- Command / response (1 byte) + number of data + data 1 + data 2 ..... + data n + check sum.



## 6.2.11 Printer Motor Drive Circuit

### Motor Drive Circuit

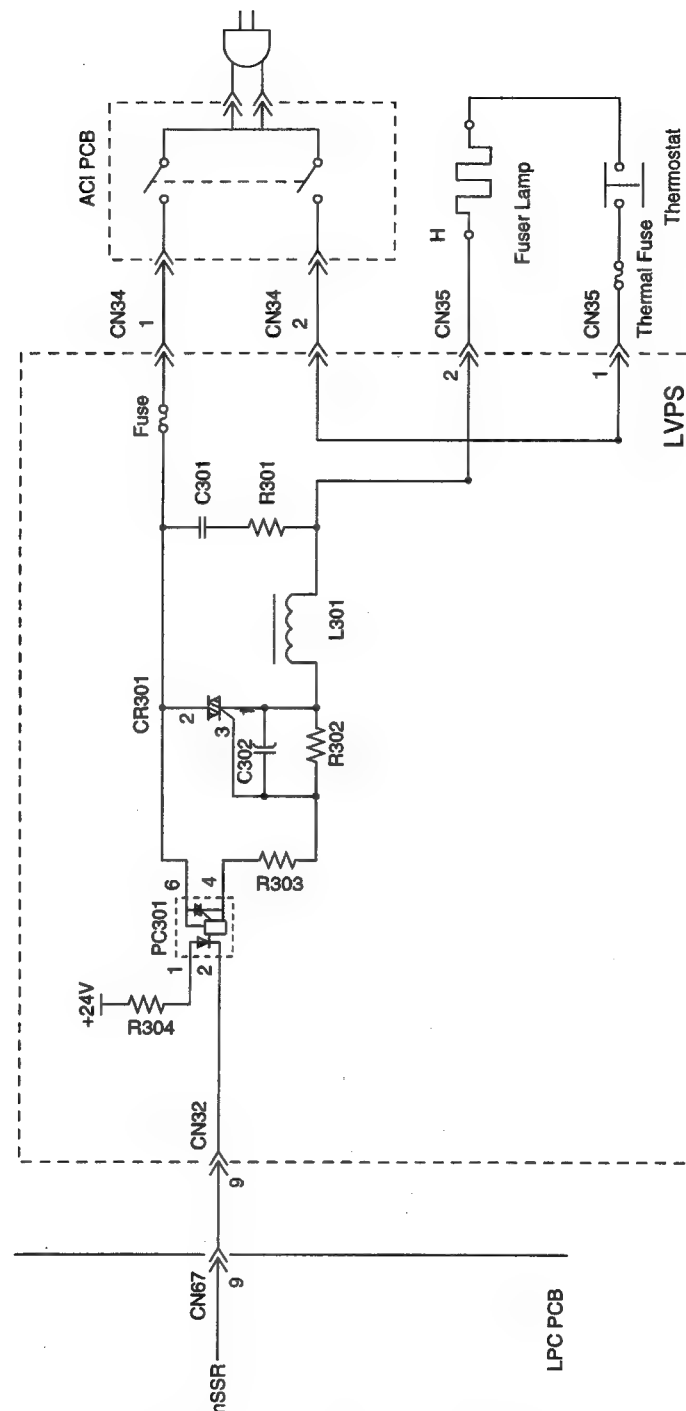
The Printer Motor is a Brushless DC Motor. When the nMMP2 signal level goes Low, the Printer Motor starts rotating. When the Printer Motor reaches a constant speed, the monitor feed back signal, nMMP3 goes Low and is fed back to the CPU which controls the printing process. The Printer Motor is powered by a +24 VDC supply. When the interlocks are open, the +24 VDC supply is cut off and the Printer Motor stops rotating.



Laser Printer Motor Drive Circuit Block Diagram

## Fuser Lamp Drive Circuit

The Fuser Lamp is powered by 115 VAC. It is driven by the LVPS and controlled the FCB PC Board. When the CN32, Pin 9 (nSSR) on the LVPS goes LOW, the Fuser Lamp turns ON. This lights up the PC301 LED and activates the CR301 photo-triac, and 115 VAC is sent to the Fuser Lamp. The time at which CR301 is actually activated depends on the 115 VAC sine wave. When the cross-voltage for Pin 6 and Pin 4 of PC301 is other than 0 Volts (sine wave exceeds 0 volts), PC301 inhibits the activation of the triac and turns ON the Fuser Lamp.



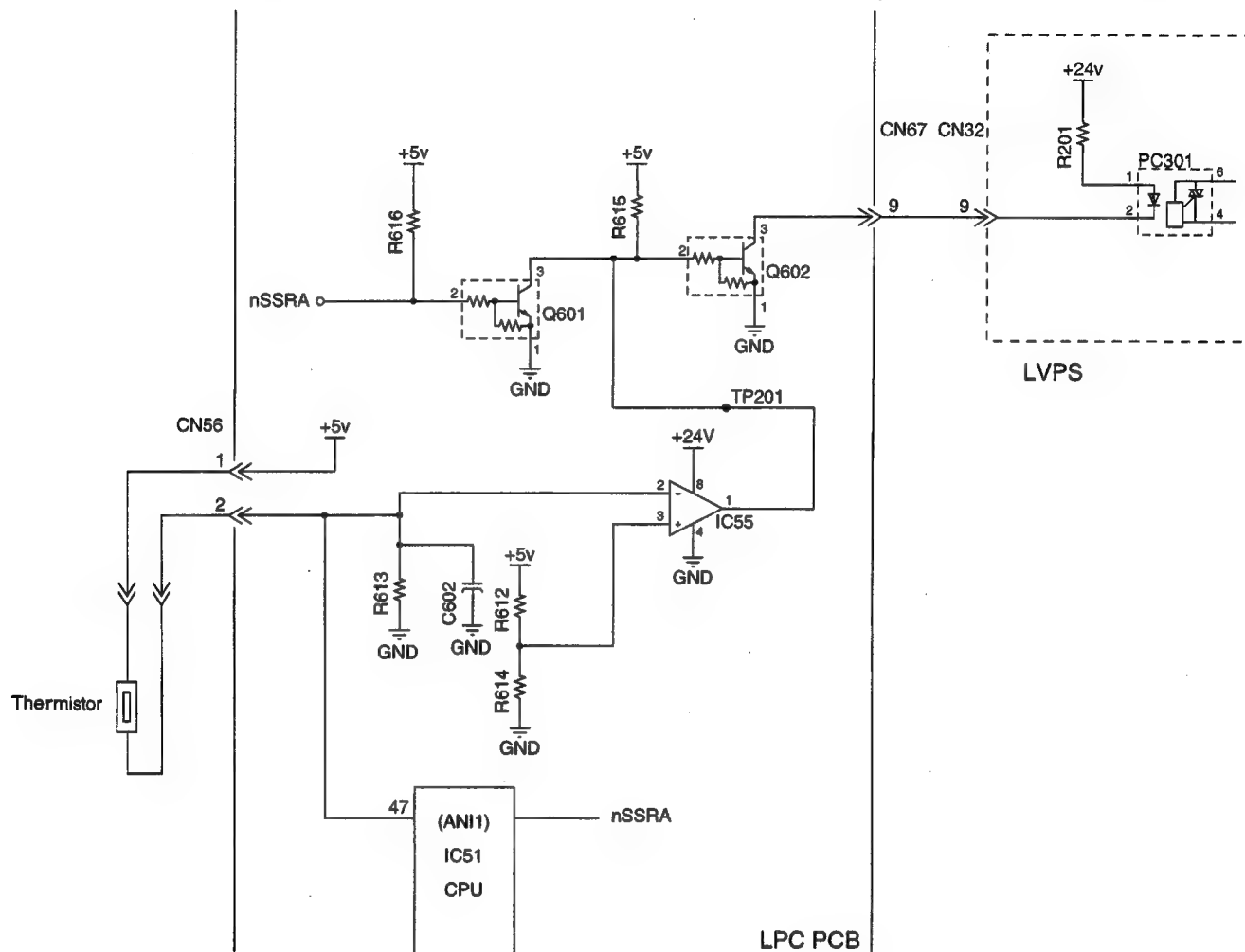
Fuser Lamp Drive Circuit Diagram



### Fuser Temperature Control Circuit

The fuser temperature is controlled by IC51 on the LPC PC Board, which contains A/D (Analog/Digital) converters ANI0 and ANI7. The Fuser Temperature Control Circuit uses A/D converter, ANI1. When the PC301 drive current is transmitted from the LPC PC Board to the LVPS, the Fuser Lamp turns ON. IC55 is a converter with open output at pins 1 and 7 and is used as an abnormal temperature detection circuit. IC55, pin 1, has a high impedance when Q602 is activated, turning ON the Fuser Lamp. An abnormal temperature is detected when the VTH voltage level becomes higher than V+, forcing IC55, pin 1 Low and deactivating Q602.

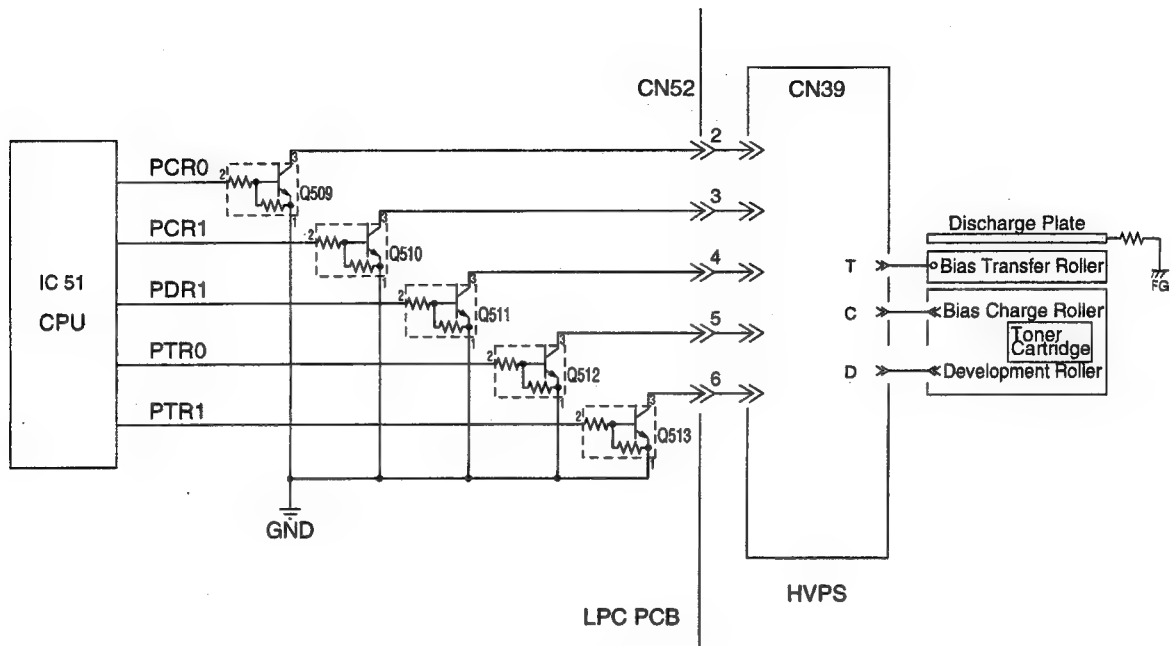
Abnormally low and high temperatures, as well as Thermistor release status, are detected by IC51 (CPU) programming.



### Fuser Temperature Control Circuit Diagram

## High Voltage Drive Circuit (Charging, Development and Transfer)

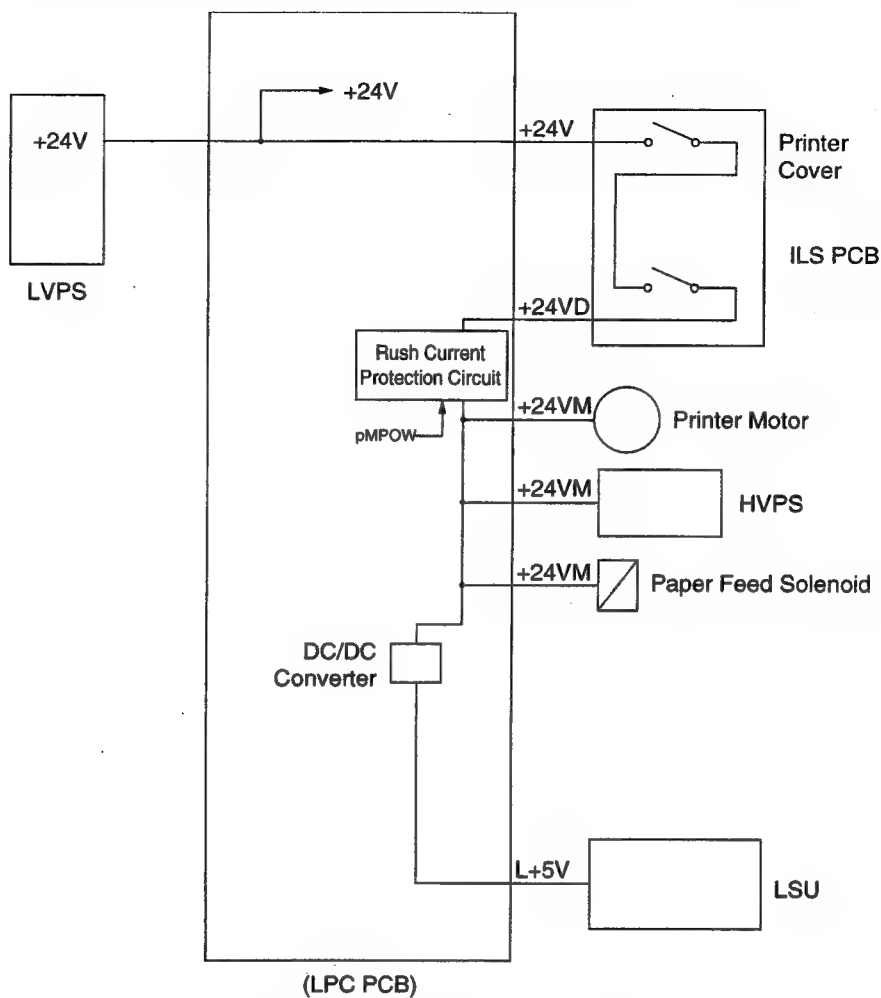
High Voltage is provided through a DC to DC converter, which changes the +24 VDC supply voltage to -650 VDC, and output approximately 0.72 KVAC (Steady current: 450  $\mu$ A) for the Charging Block. The Developer Circuit converts the +24 VDC to between -500 VDC for the development bias, and outputs 1,700 VAC(p-p) at a frequency of 1.7 kHz to charge the toner. The Transfer Circuit changes the +24 VDC supply voltage to approximately +600 VDC (steady current: 3.0  $\mu$ A/-800 VDC steady voltage).



High Voltage Drive Circuit

### 6.2.12 Interlock Safety Circuit

This safety circuit turns OFF the +24 VDC supply voltages when the Printer Cover is opened. When the Printer Cover is opened, the microswitch(es) on the ILS PC Board are de-actuated, turning OFF +24 VDC to the Printer Drive Circuit, the HVPS, and the Paper Feed Solenoid Circuits, turning OFF the +5 VDC supply voltage for the Laser Driver Circuit on the Laser Unit.



Interlock Safety Circuit Block Diagram

### 6.2.13 LSU Control Circuit

The laser control signals are described below.

#### nLDON

The LSU is activated when this output signal is LOW. If an error occurs, the nLDON output signal level goes High and the LSU is deactivated.

#### nVIDEO

This is the actual Data Signal. The Laser is ON when the nVIDEO output signal level is LOW.

#### nHSYNC

This horizontal synchronization signal transmitted from the Beam Detection Sensor sets the horizontal position of the laser beam as it crosses the OPC Drum.

#### nPMON

This is the Polygon Motor Control Signal. The Polygon Motor rotates when the nPMON output signal level is LOW.

#### nPMRDY

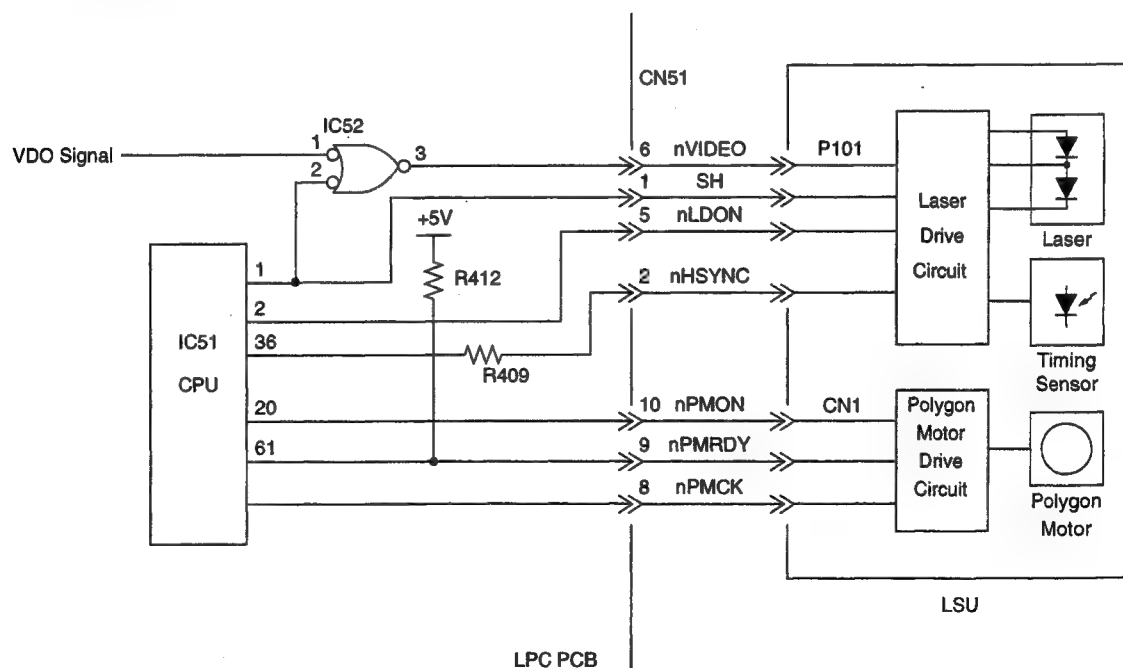
A Phased-Lock Loop (PLL) circuit keeps the Polygon Motor speed constant at 10,000 rpm when the nPMRDY is at a Low output signal level.

#### nPMCK

This is the Polygon Motor Rotate Clock.

#### SH

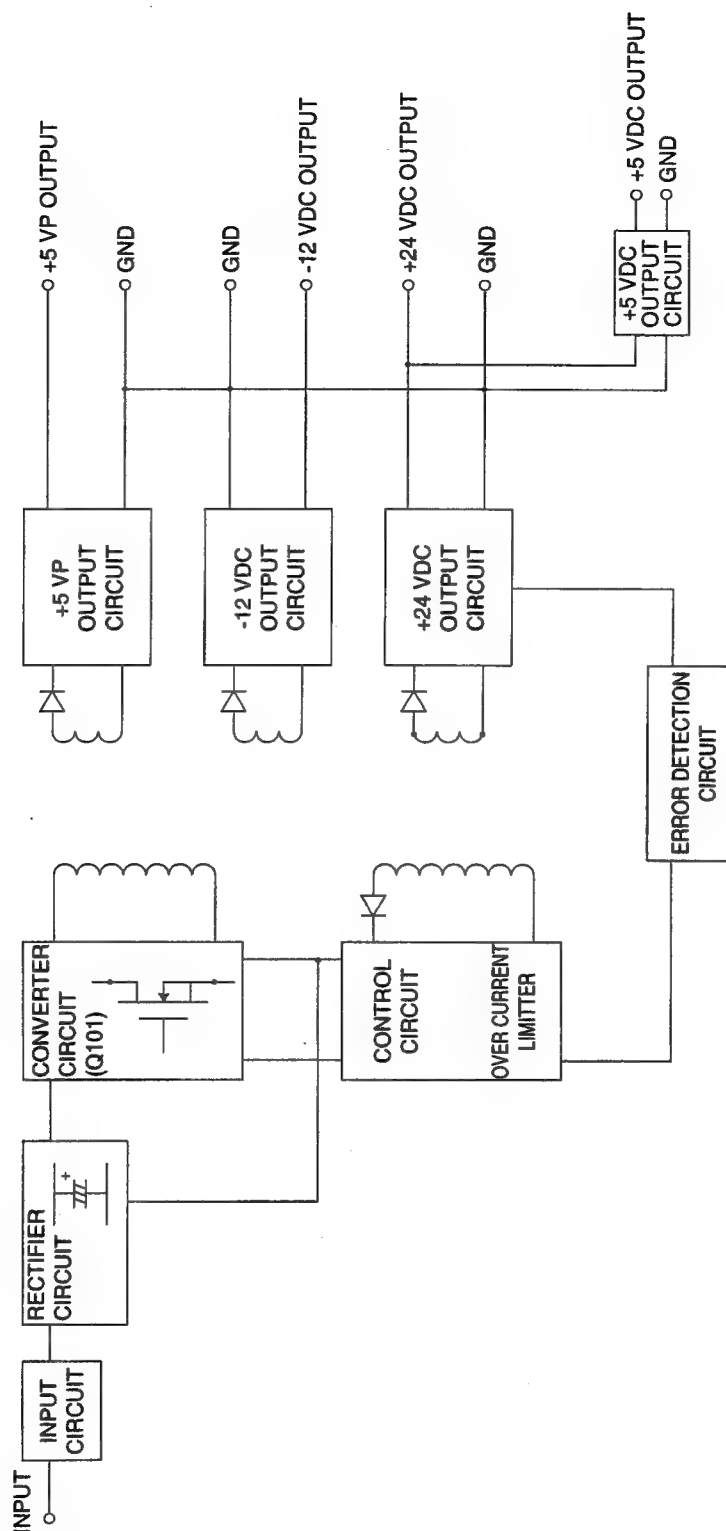
Laser Power Sample/Hold Timing Signal.



Laser Unit Control Circuit Block Diagram

## 6.2.14 Power Supply Unit (LVPS)

### Block Diagram



**Note:**

+5 VP is the Pilot Power Supply, which provides power to the active components during the Sleep Mode.

## ETXDN218A7D (100V), ETXDN218E7D (200V)

### Input Filter Circuit

AC line voltage travels to the rectifying circuit through the line filter. The line filter eliminates RFI noise which may otherwise pass to the AC line from the power supply unit. It also protects the power supply unit from transient noise which may pass into the unit from the AC line.

### Rectifying and Smoothing Circuit

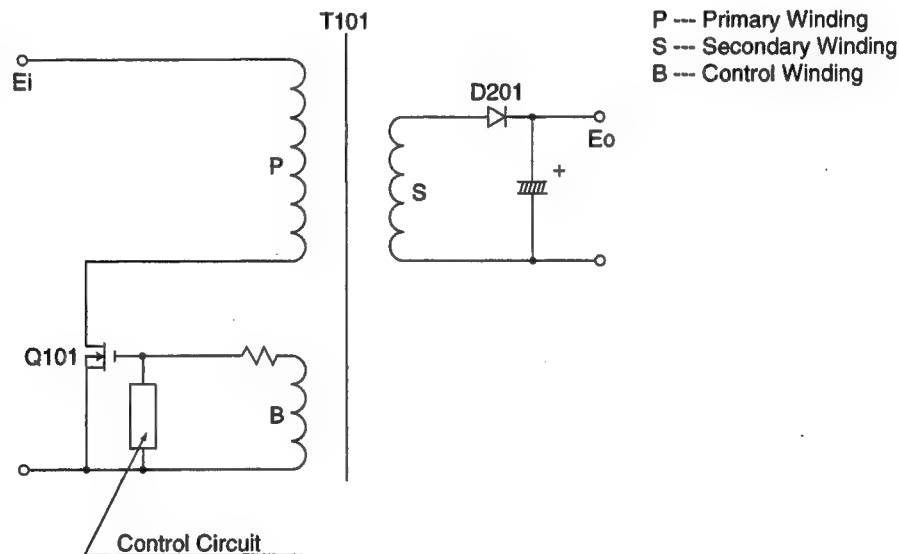
As soon as power is applied to the Power Supply Unit, AC line voltage is rectified by C105 and is smoothed by capacitor C107. The protection circuit at the time of start-up is controlled by an IC (IC101) and resistors R103 and R110.

### Inrush Current Protection Circuit

When the capacitor C105 is not charged by the AC input, an inrush current, or current surge, appears at the input side. Power thermistor TH101 limits the inrush current.

### Converter Circuit

A hybrid IC (IC101), in combination with transformer T1, form a switching power supply circuit using the RCC (Ringing Choke Converter) system.



### Main Switching Circuit

In the above circuit, when the main switching transistor, Q101, is turned On, input voltage,  $E_i$ , is supplied to the primary winding of transformer T101. However, no current will flow through diode D201 of the secondary side, due to reverse polarity of the secondary winding causing no current flow within T1. But the transformer charges with energy. When Q101 is turned Off, the supply voltage to the primary winding shuts off and the windings of T101 change polarity, allowing D201 to conduct, releasing the energy accumulated in T101 to the circuit. When the energy is discharged through D201, Q101 turns on, once again reversing the polarity on T101 windings, creating a self-oscillation circuit.

The value of output voltage is

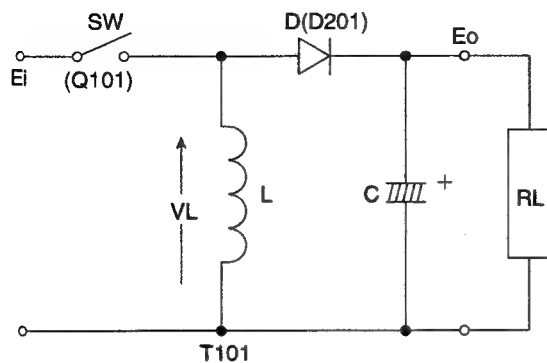
$$E_o = d/(1-d) * E_i$$

$$d = T_{on} / T_s$$

$T_{on}$  : On time of Q101

$T_s$  : Period of oscillation

Equivalent circuit model for the RCC.



In the equivalent circuit ; When SW is on, current flows

$SW \rightarrow L$

When SW is off, current flows

$L \rightarrow D \rightarrow RL$

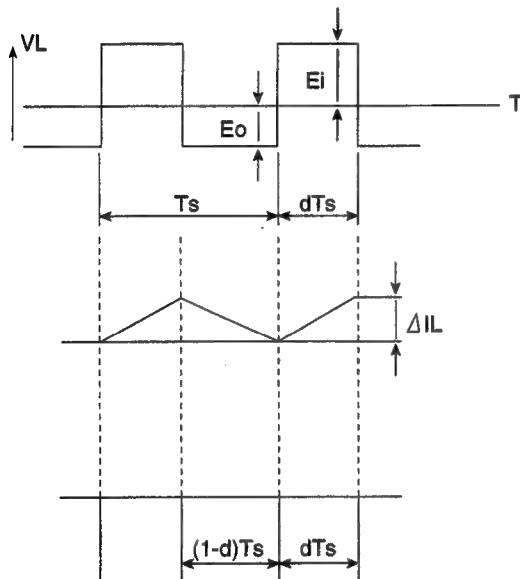
The value of inductance increase current between on period. ( $d * T_s$ )

$$I_L = E_i / L * d * T_s \dots \dots \dots (1)$$

The value of inductance decrease current between off period. ( $(1-d) * T_s$ ) \dots \dots \dots (2)

From equation (1) and (2),

$$E_o = d/(1-d) * E_i$$



In the actual circuit, the fixed output voltages are obtained by changing the winding ratio of transformer T101. In this converter circuit, the output voltages are stabilized by controlling the duty cycle of the ON and OFF timing of the transistor. In this power supply, the bias winding is built into the transformer. The power supply has four outputs, +24 VDC, -12 VDC, +5 VP and +5 VDC. The +24 VDC output is protected by the Error Detection Circuit, and the +5 VP and -12 VDC outputs are protected by the circuitry inside of the voltage regulator IC, +5 VDC is protected by ZD251.

### Control Circuit and Error Detection Circuit

The control circuit amplifies the output of the duty cycle according to the error voltage detected by the Error Detection Circuit, and drives the main transistor Q101. The method used to change the duty cycle is to change the ON time period. When the output voltage of the +24 VDC circuit rises, the current of photocoupler PC101 increases, the output pulse width of the control circuit decreases and the ON time period of Q101 decreases. This control circuit decides the minimum OFF time period by itself. When the oscillation frequency becomes higher and the OFF time period becomes minimum, the OFF time period remains unchanged and only the ON time period decreases. This way, there is an upper limit of the oscillation frequency and the duty cycle is expanded.

### Over Current Limiter

The +24 VDC output is limited by Ton MAX Limiter (ON time period of transistor Q101) which is part of the control circuit. The +5 VP, -12 VDC and +5 VDC outputs have over current limiters provided inside the voltage regulator and IC251.

## 7 Exploded View & Parts List

### 7.1 Country Codes

Country Code	Country	Country Code	Country
AA	Austria	AT	Turkey
AB	UK	AU	USA, Puerto Rico
AC	Canada	AV	France
AD	Denmark	AV	Algeria
AE	Taiwan	AW	New Zealand
AF	Finland	EE	Italy
AG	Germany	YA	Panama, Peru, Chile, Argentina
AH	Netherlands	YC	Universal 200V Version
AJ	Spain	YG	Greece
AK	Hong Kong	YJ	Czech, Slovak
AL	Australia	YL	Brazil
AM	Switzerland	YM	Malaysia
AN	Norway	YT	Thailand
AP	Portugal	YV	China
AP	Brazil	YW	South Africa
AQ	Ireland	YX	Singapore
AR	Belgium	YY	Mexico, Panama
AS	Sweden		

**Note:**

1. This parts list is provisional issue for each countries. Please contact local Panasonic company to get correct part number.
2. Important safety notice

Components identified by  mark have special characteristics important for safety.

When replacing any of these components, use only manufacturer's specified parts.





Model Name			UF-885													UF-895													Location																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Ref. No.	Safety Mark	Part Number	Description	A	U	A	C	A	B	A	D	A	E	A	F	A	G	A	H	A	I	A	J	A	K	A	L	A		M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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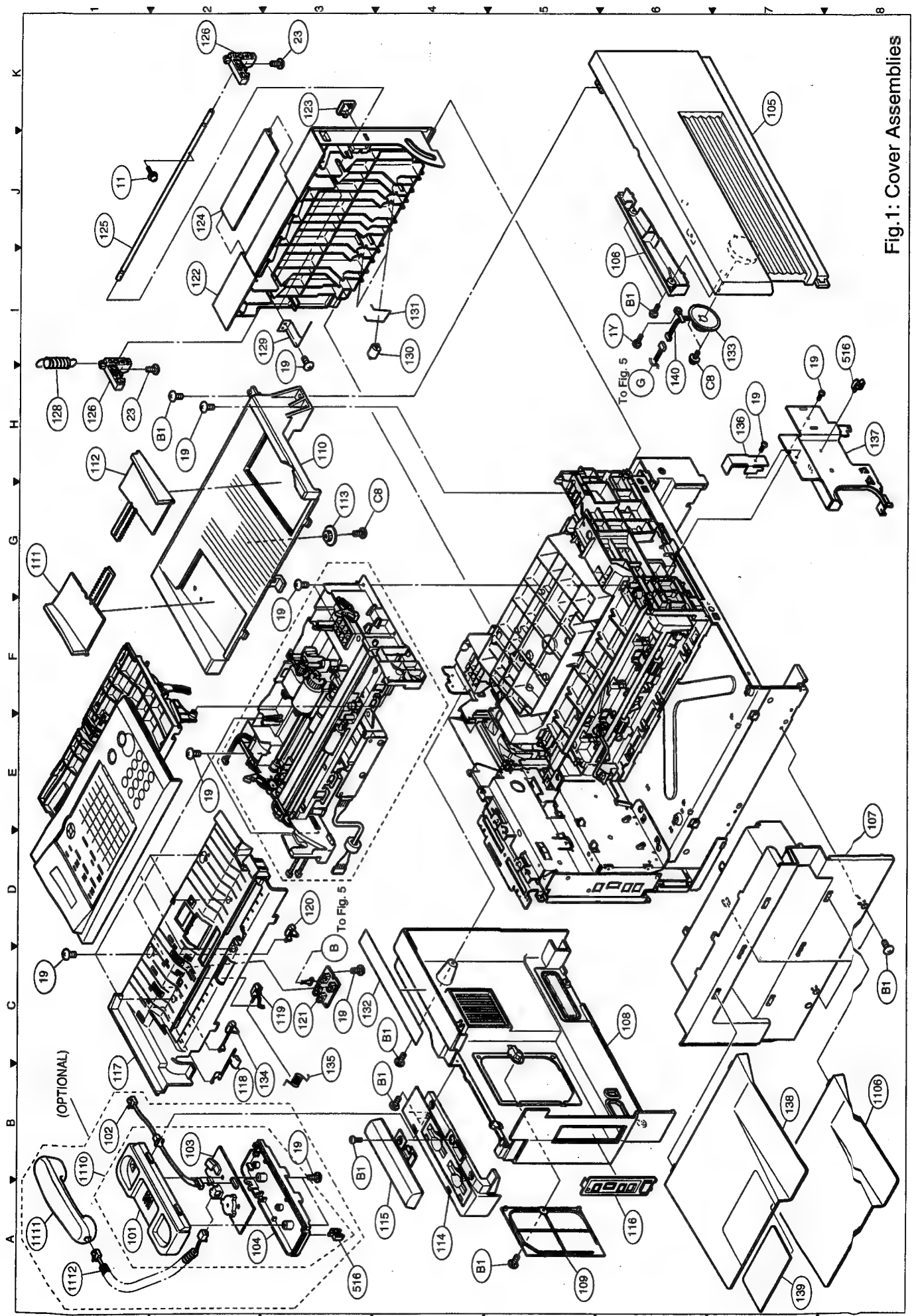


Fig.1: Cover Assemblies





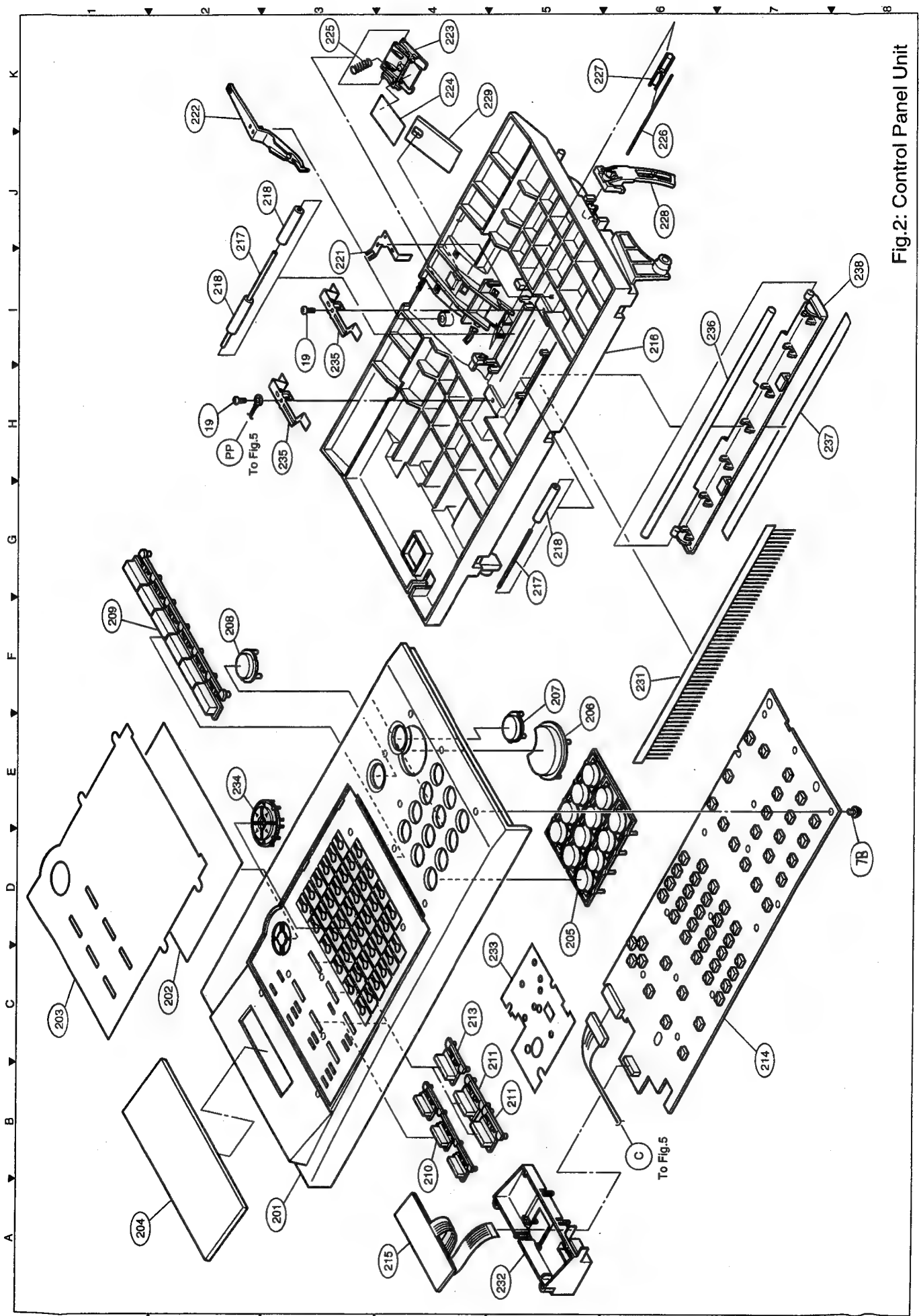


Fig.2: Control Panel Unit



## 7.4 Transmitter Assembly

[illegible]

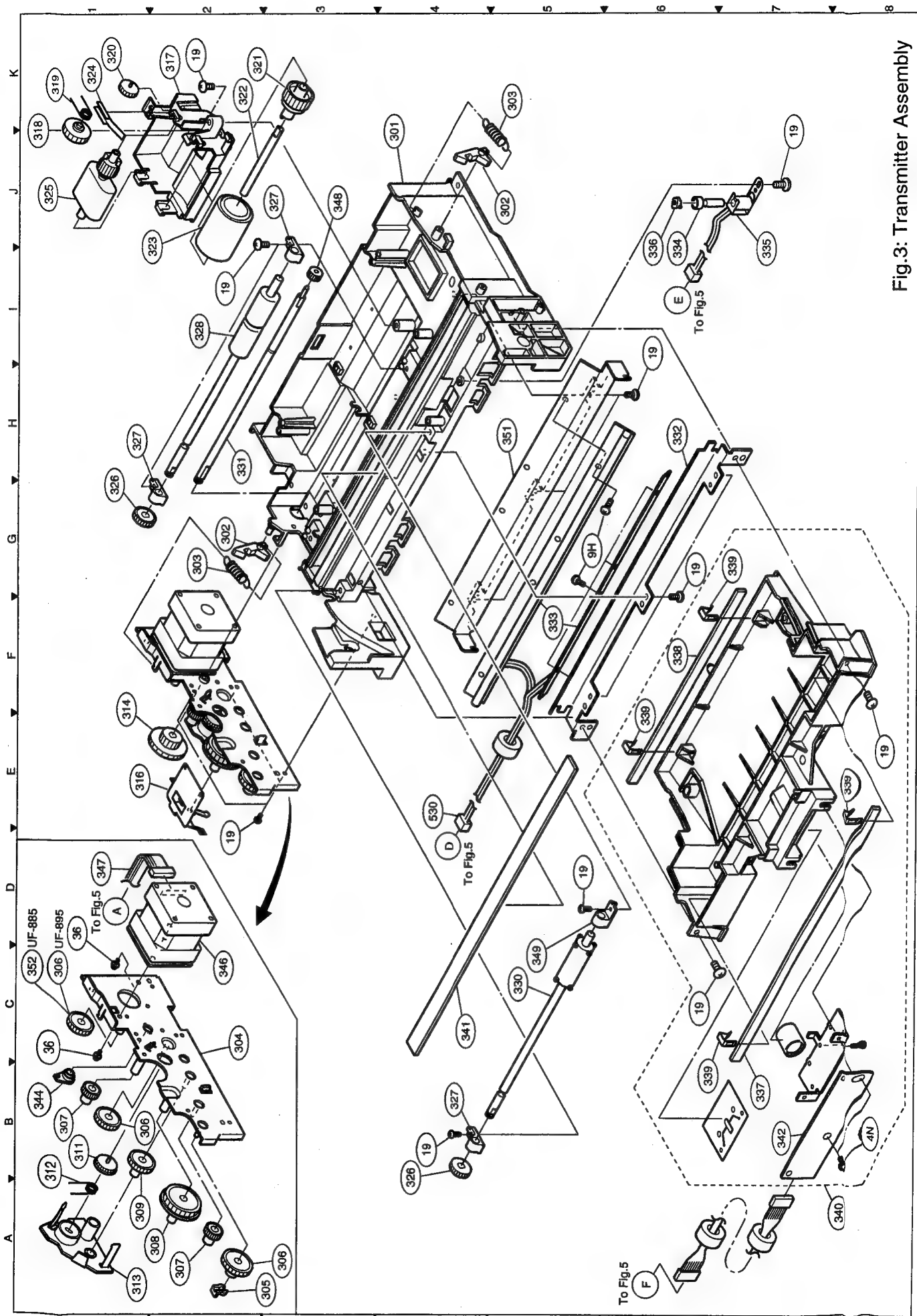


Fig. 3: Transmitter Assembly



## 7.5 Fuser Unit

Model Name			UF-885								UF-895								Location																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Ref. No.	Safety Mark	Part Number	Description	A	J	A	B	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AL	AM	AN	AO	AP	AR	AT	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z</

**Note:** If the Thermostat (Ref. No. 432) and/or Thermal Fuser (Ref. No. 433) is damaged by a Fuser over heat condition, the parts marked with "\*" may also be damaged and should be replaced at the same time as the Thermostat and/or Thermal Fuser or replace the entire Fuser Unit.

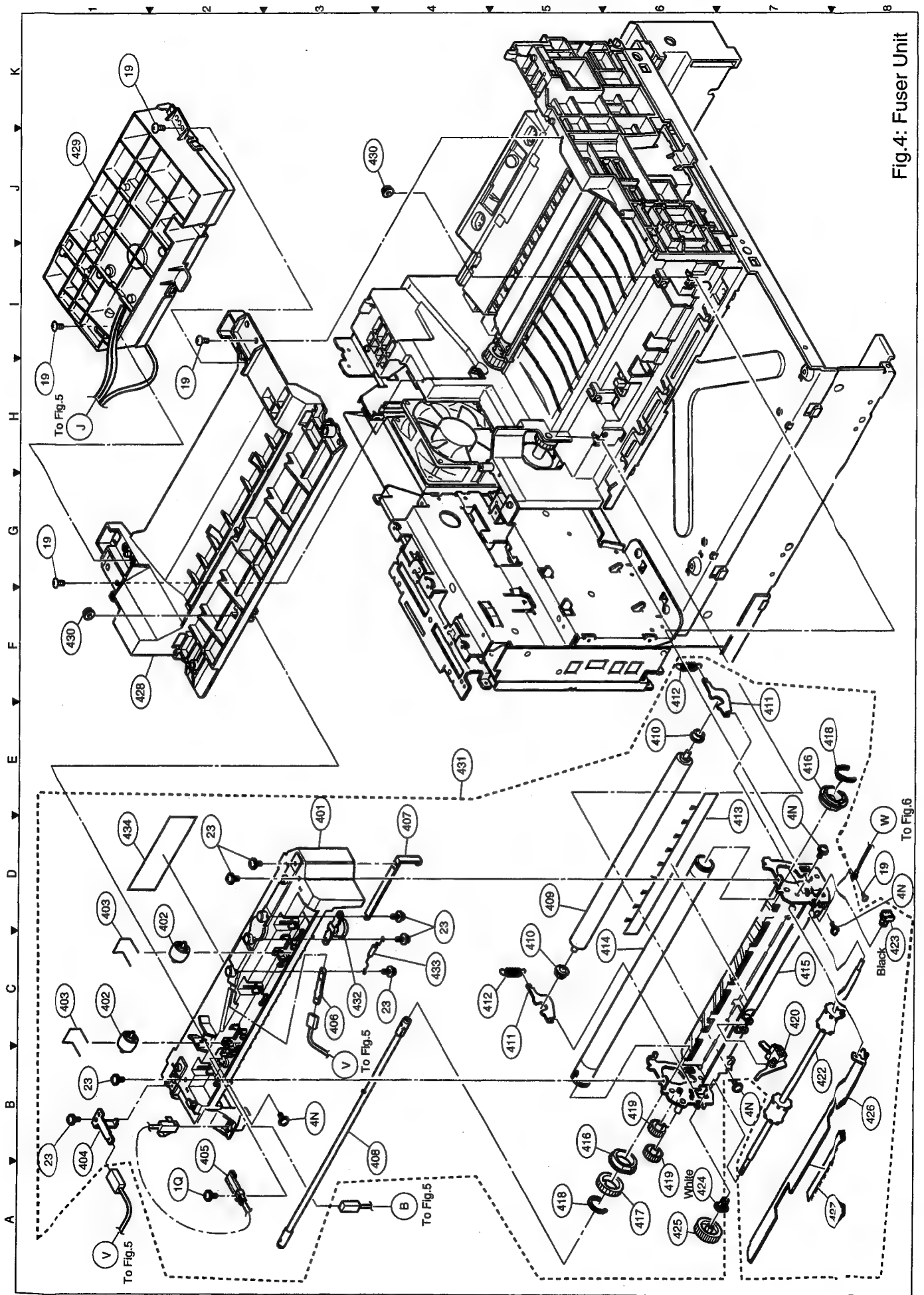


Fig. 4: Fuser Unit

## 7.6 Electrical Parts

[illegible]









[illegible]

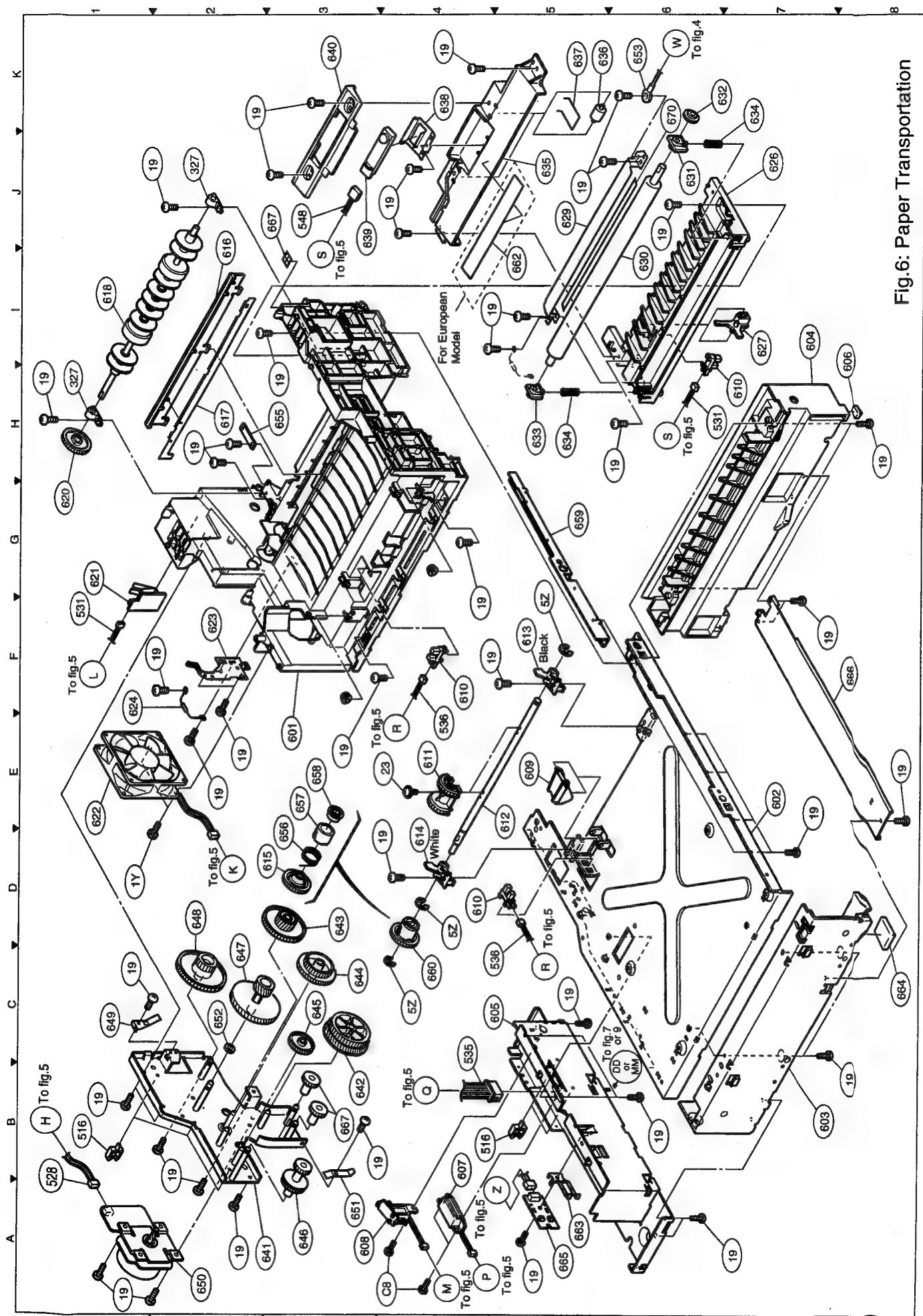


Fig. 6: Paper Transportation



## 250 Feeder Unit

Model Name			UF-895																										UF-896																									
Ref. No.	Safety Mark	Part Number	Description	AUA	CAB	BAD	AEF	AGH	AJA	AMA	NAP	PAC	RAS	SAT	JAW	EEI	CVG	JYV	MYM	WYA	LAL	AKA	HA	CAE	AB	ACA	AFAR	TAT	AV	EET	YCY	VYV	X	Location																				
701	-	DZJAO00184	Cassette Rail 2, Right	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5J																			
702	-	DZJC000092	Slay 2, Rear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8A																			
703	-	DZJE000120	Cover, Blind	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6H																			
704	-	DZJA000175	Bracket, Bushing, Front	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G																			
705	-	DZJA000174	Bracket, Bushing, Rear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3C																			
706	-	DZLA000087	Roller, Intermediate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2P																			
707	-	DZLM000052	PEL5, Front (Black)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1K																			
708	-	DZLM000006	PEL5, Rear (White)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1C																			
709	-	DZLF000145	Gear, Drive, B28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1C																			
710	-	DZJD000004	Latch, Right	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1D, 2H																			
711	-	DZJE000073	Cover, Sensor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1F																			
712	-	DZLF000144	Gear, E34B60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2C																			
713	-	DZLF000142	Gear, E17D32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3B																			
714	-	DZLF000141	Gear, D26C41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9B																		
715	-	DZLF000143	Gear, C21F34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3A																		
716	-	DZJE000095	Cover, GST PC Board	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3A																	
717	-	DZJE000094	Cover, Roller	1	1	1</																																																

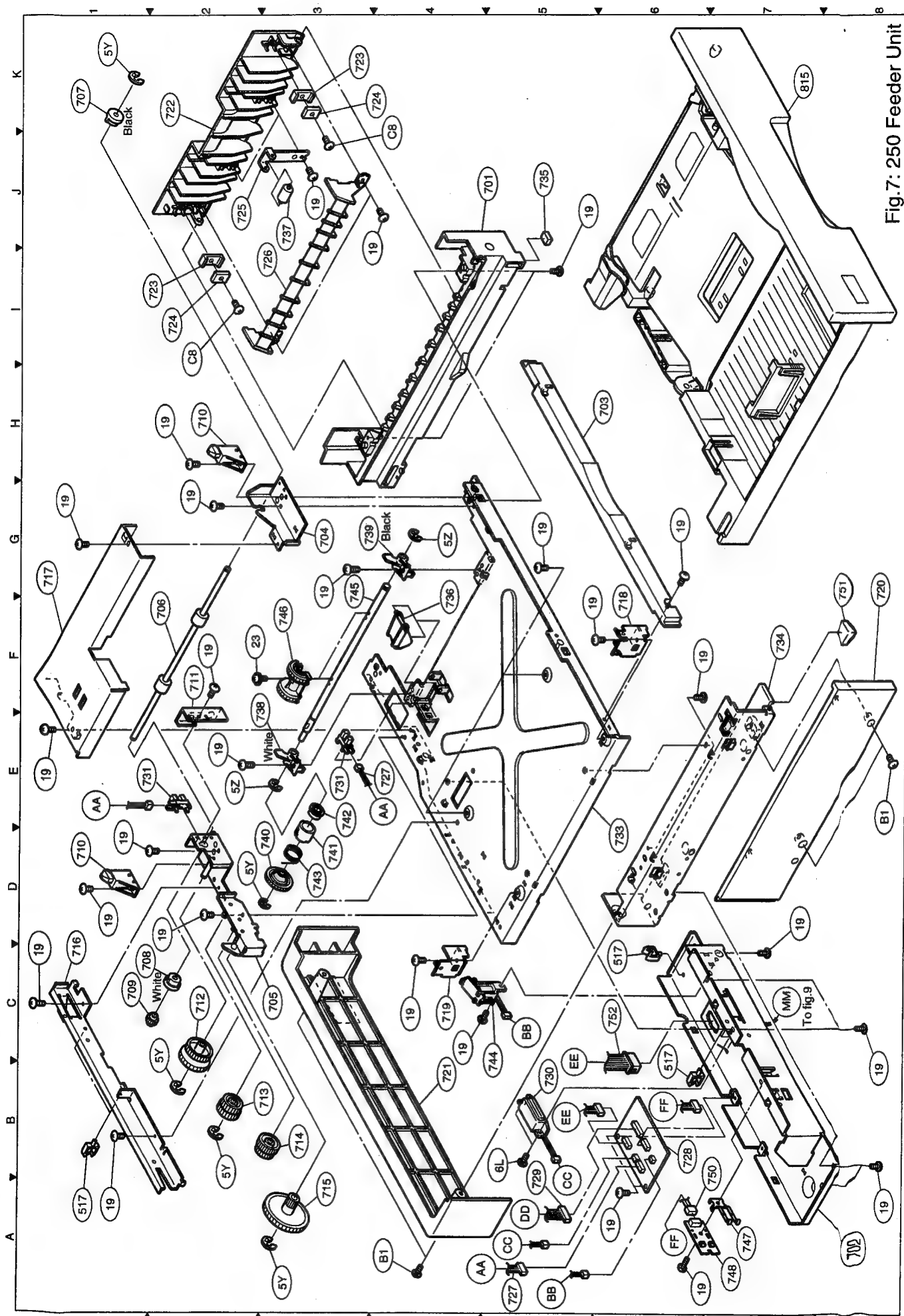


Fig.7: 250 Feeder Unit

## 7.9 250 Paper Cassette

[illegible]

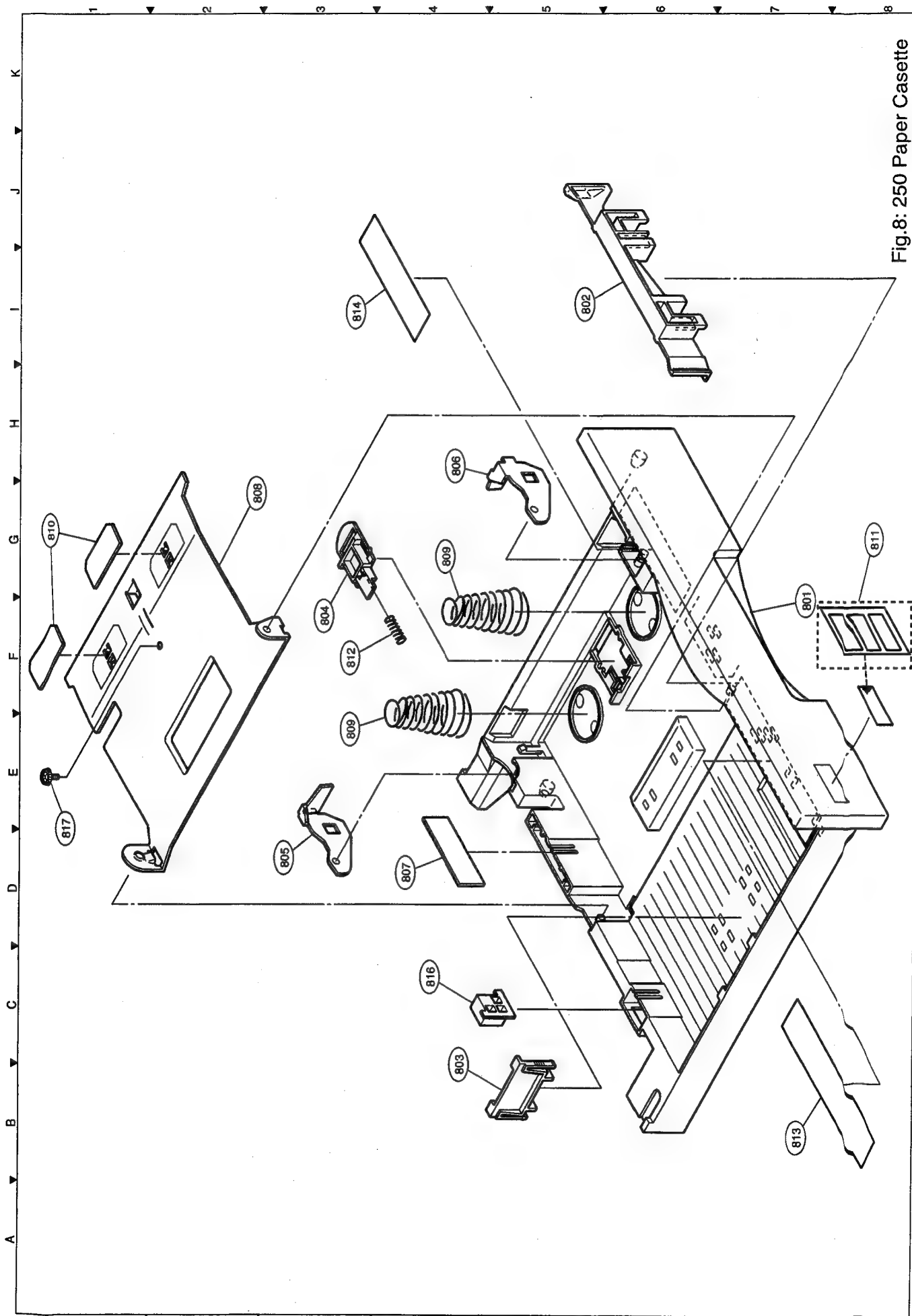
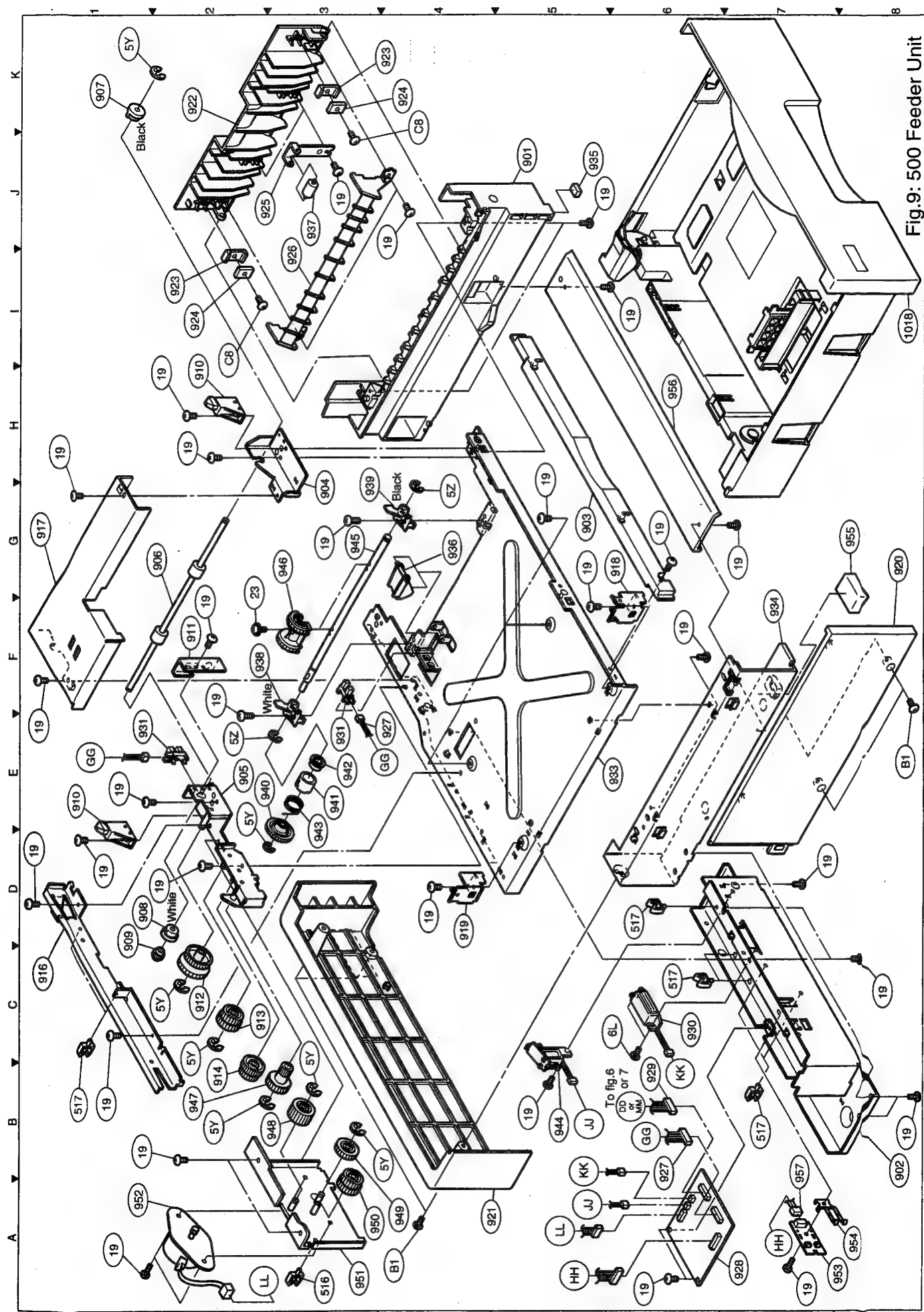


Fig.8: 250 Paper Cassette

## 7.10 500 Feeder Unit

[illegible]





## 7.11 500 Paper Cassette

Model Name			UF-885												UF-895												Location							
Ref. No.	Safety Mark	Part Number	Description	A	U	A	C	A	A	B	A	C	A	E	A	F	A	G	A	H	A	M	A	N	A	P		A	U	F	8	8	5	
1001	-	DZJF000232	Base Frame, Cassette	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7C
1002	-	DZJF000228	Guide, Paper Width	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7J
1004	-	DZJM000091	Lock, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1005	-	DZJC000079	Clip, Paper, Right	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4E
1006	-	DZJC000080	Clip, Paper, Left	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4I
1007	-	DZJD000033	Plate, Lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
1008	-	DZJF000231	Plate, Pressure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
1009	-	DZKN000083	Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1010	-	DZJF000005	P.d. Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1G
1011	-	DZKN000298	Label, Paper Size	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8H
1012	-	DZKN000084	Spring, Lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1013	-	DZKN000483	Instruction Label 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I
1014	-	DZKN000300	Instruction Label 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5J
1015	-	DZJF000225	Paper Size Selector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
1016	-	DZJF000229	Guide A, End	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3B
1017	-	DZJF000230	Guide B, End	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1B
1019	-	DZPA000024	Screw, Locking	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1E



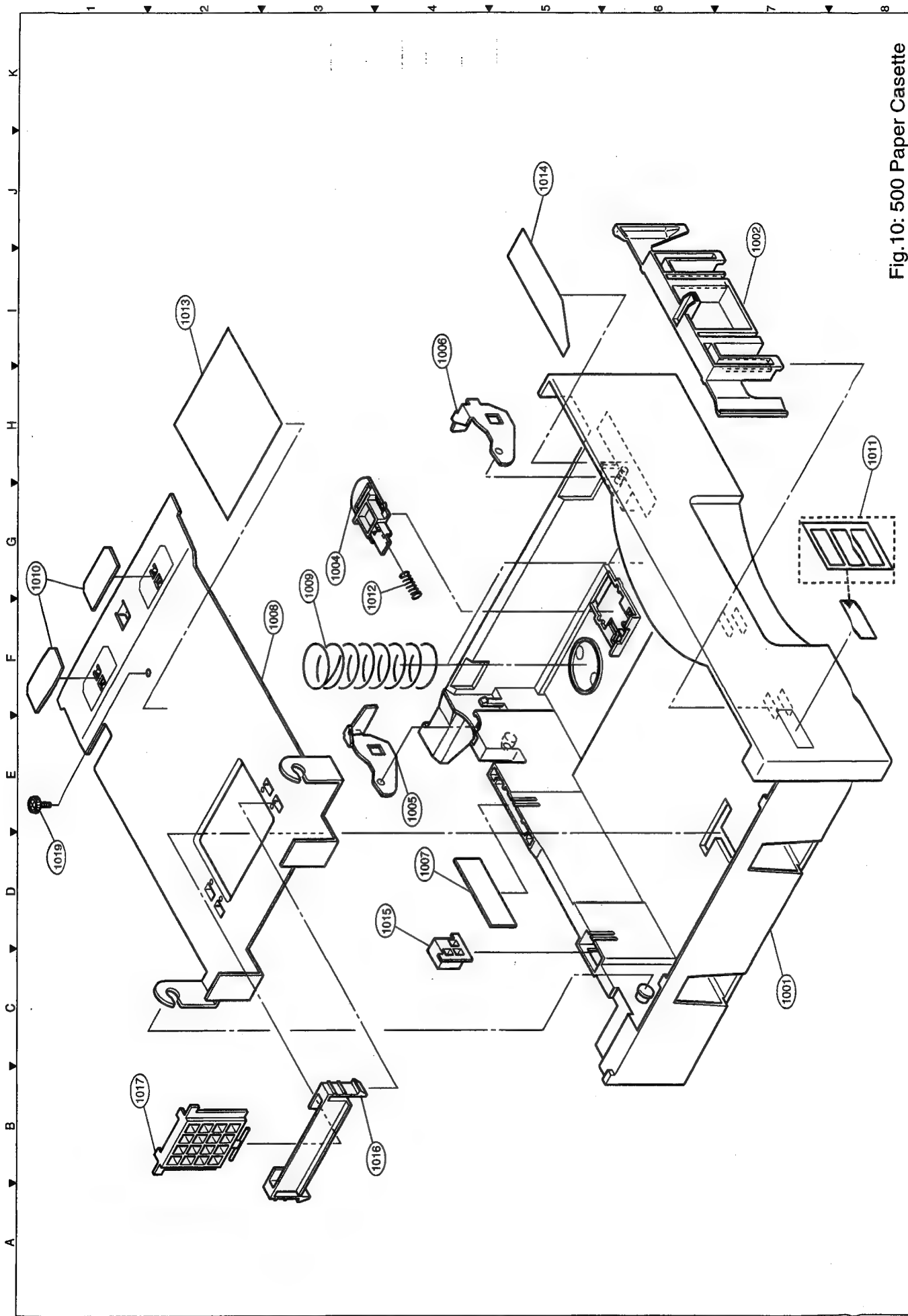


Fig.10: 500 Paper Cassette

## 7.12 Packing

[illegible]



A ▼ B ▼ C ▼ D ▼ E

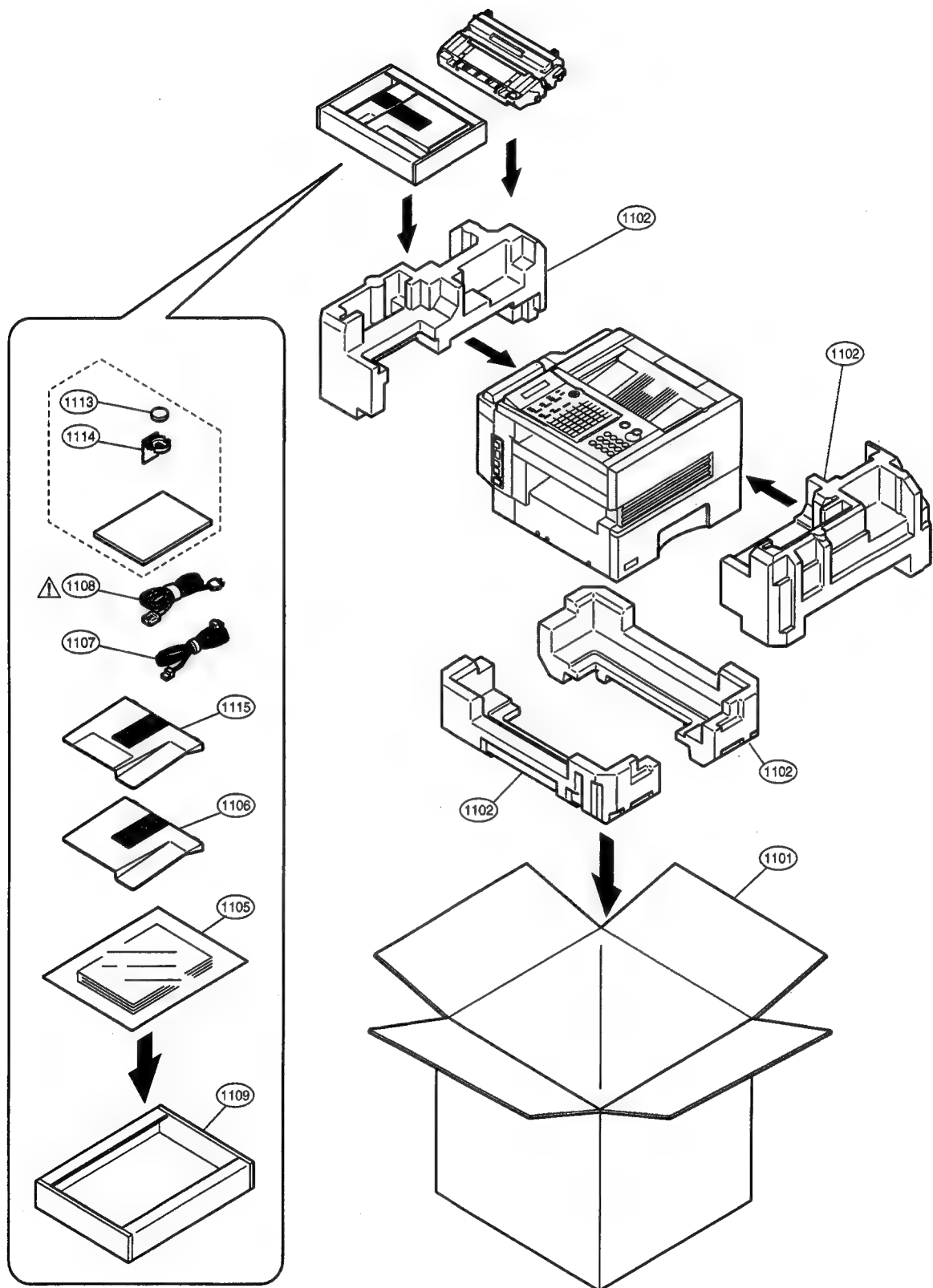
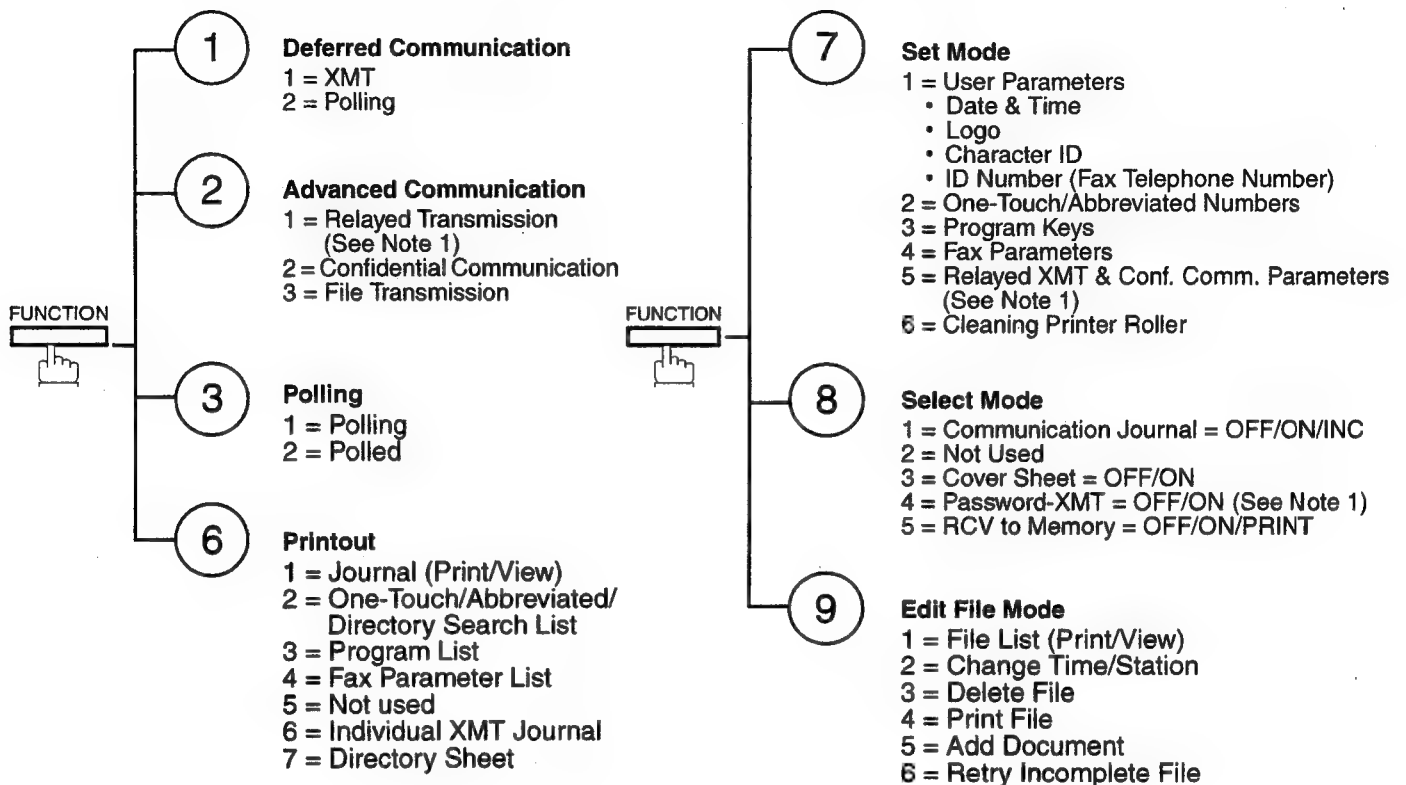


Fig.11: Packing and Accessories

## 8 Installation

### 8.1 Function Key

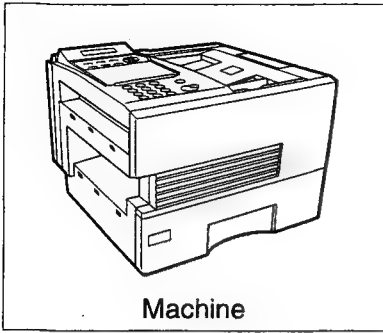
Any function can be started by first pressing **FUNCTION** and then enter the function number, or by pressing  or  scroll key repeatedly until the desired function appears on the display.



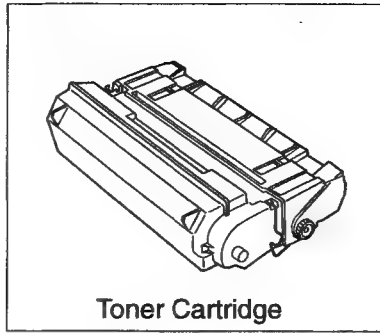
 **Note:** 1. If Fax Parameter is not preset to a Valid position, which enables you to use the function, the display will not show the function.

## 8.2 Main Unit and Accessories

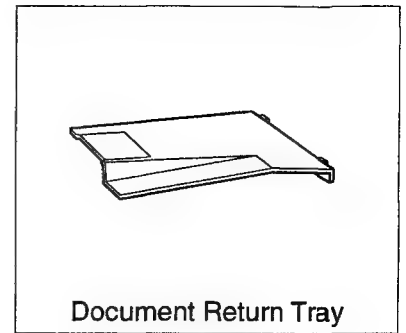
Unpack the carton and check that you have all the accessories illustrated.



Machine



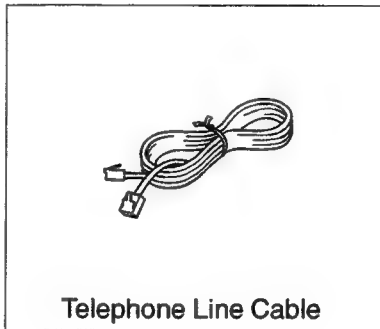
Toner Cartridge



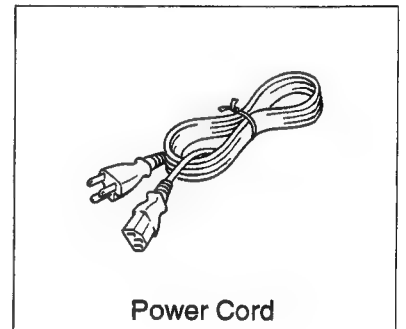
Document Return Tray



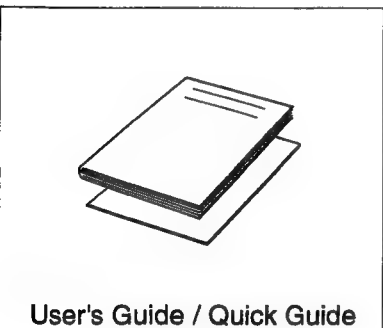
Recording Paper Tray



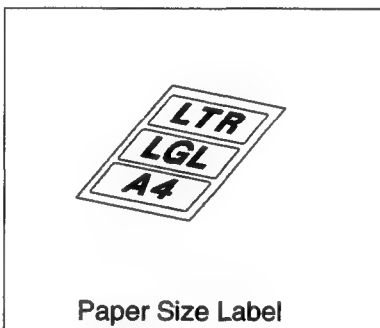
Telephone Line Cable



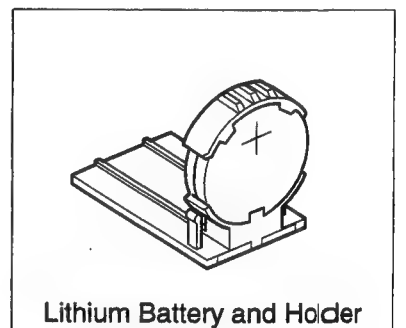
Power Cord



User's Guide / Quick Guide

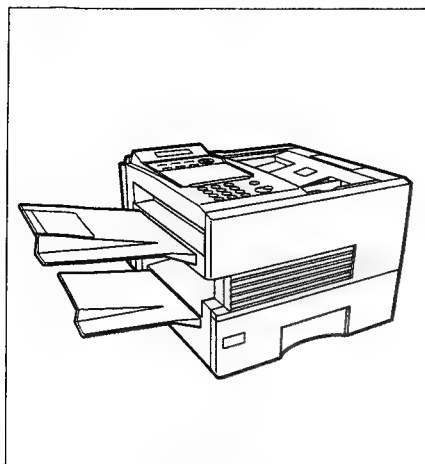


Paper Size Label



Lithium Battery and Holder

## 8.3 Installing the Accessories

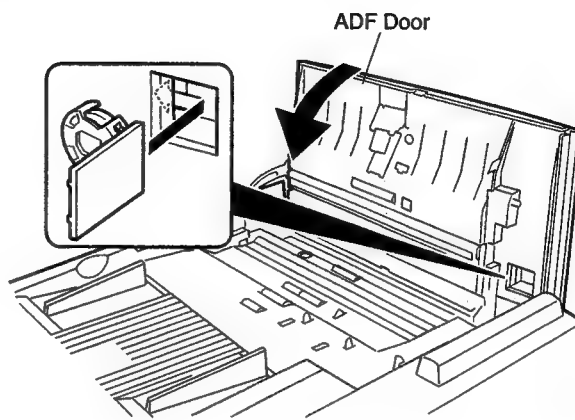


Final Installed View

### Installing the Lithium Battery

(This battery is used to backup the clock during power failures, see page 164 of the User's Guide.)

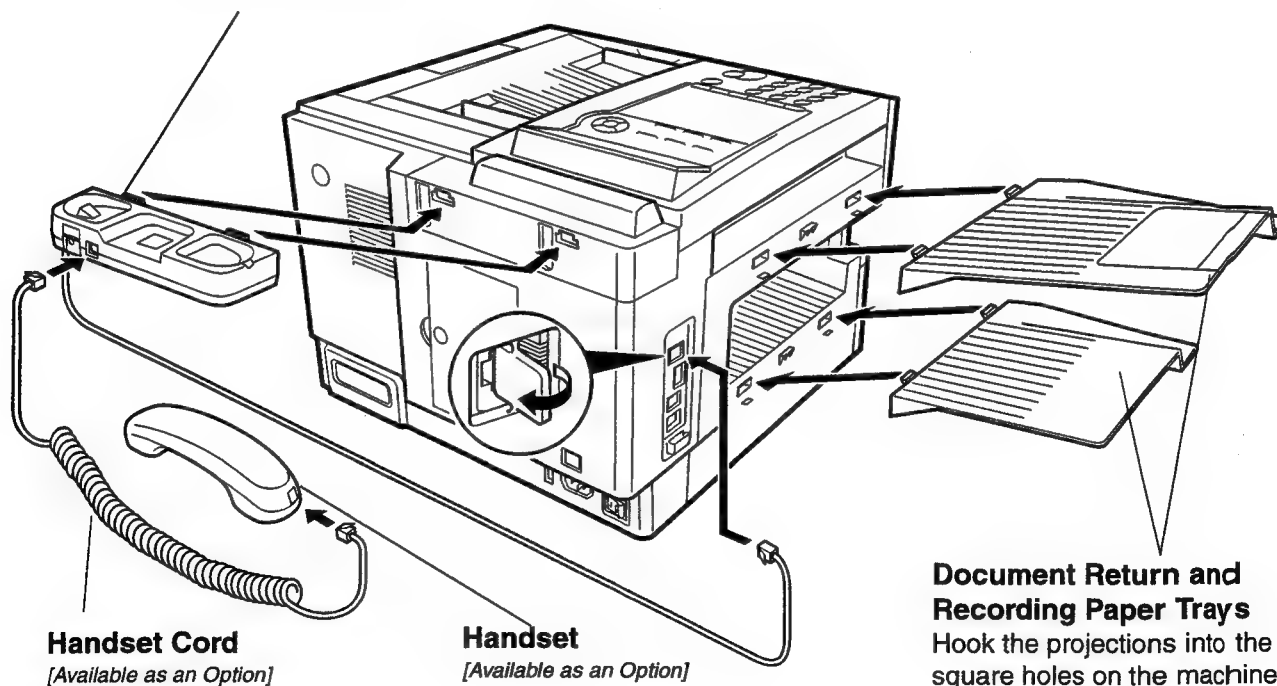
- (1) Open the ADF Door.
- (2) Install the Battery Holder, slide it to the Left until it latches and close the ADF Door.



### Handset Cradle *[Available as an Option]*

Hook the projections into the square holes on the machine.

Connect the cable into the HANDSET jack on the machine.



**Handset Cord**  
*[Available as an Option]*

**Handset**  
*[Available as an Option]*

**Document Return and  
Recording Paper Trays**  
Hook the projections into the  
square holes on the machine.

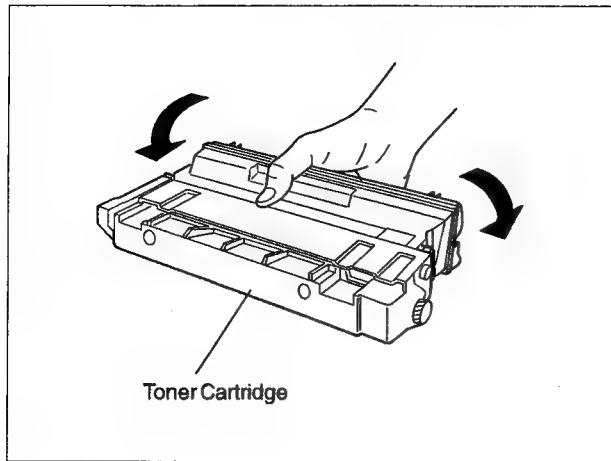


**Note:**

1. For some countries, the handset may not be available because of the country's regulation or specification.

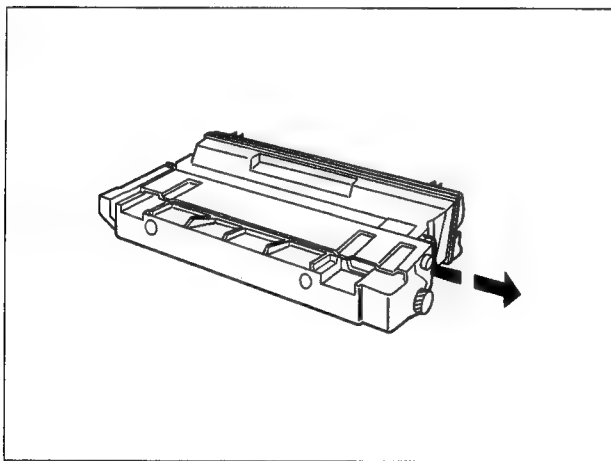
## 8.4 Installing the Toner Cartridge

1



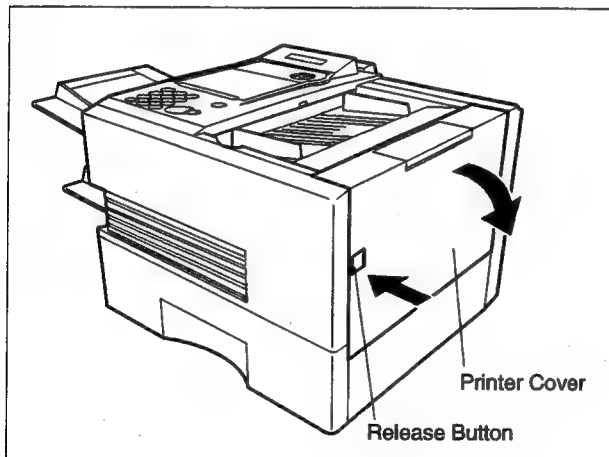
Unpack the Toner Cartridge and rock it back and forth as shown for 5 or 6 times to even the toner inside.

2



Remove the protective seal.

3

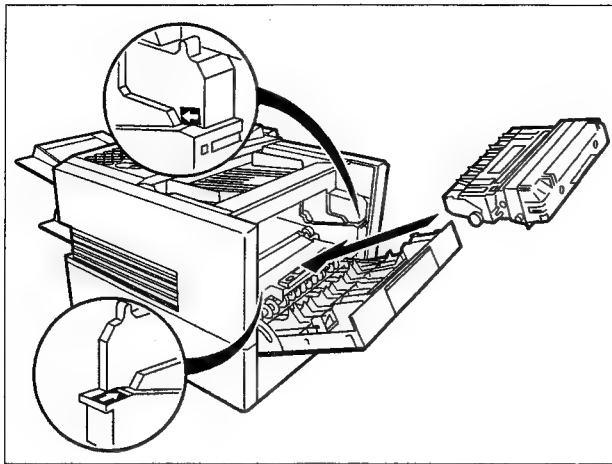


Push the Release Button to open the Printer Cover.

*Continued on the next page.*

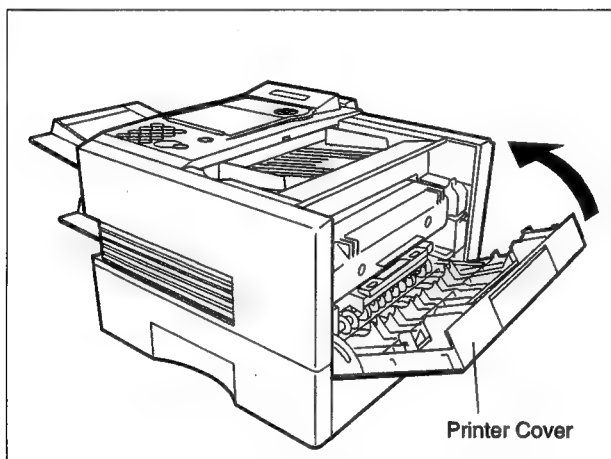


**4**



Align the arrow and the projection on both sides as shown and insert the Toner Cartridge into the machine.

**5**



Close the Printer Cover firmly.

**6**

If you are replacing the Toner Cartridge, it is recommended to clean the Printer Roller to maintain good printing quality. To clean the Printer Roller, follow the procedure on page 161 of the User's Guide.

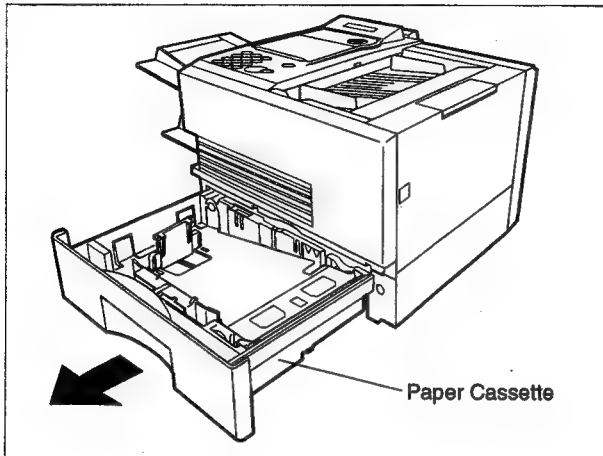
## 8.5 Loading the Recording Paper

### Paper Specifications

In general, most bond papers will produce excellent results. Most photocopy papers will also work very well. There are many "name" and "generic" brands of paper available. We recommend that you test various papers until you obtain the results you are looking for. For detailed recommended paper specifications, see page 170 of the User's Guide.

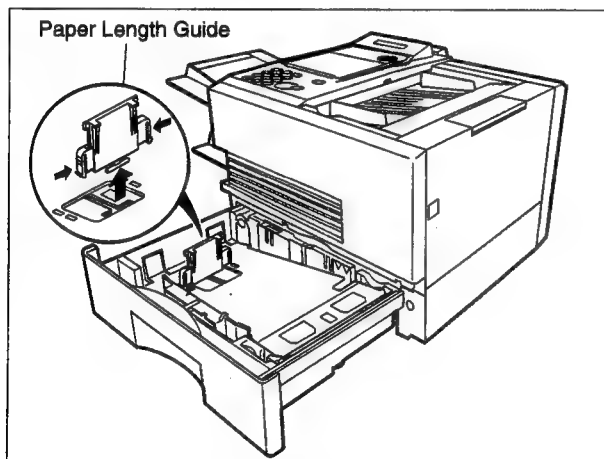
### How to Load the Recording Paper

1



Slide out the Paper Cassette from the machine.

2

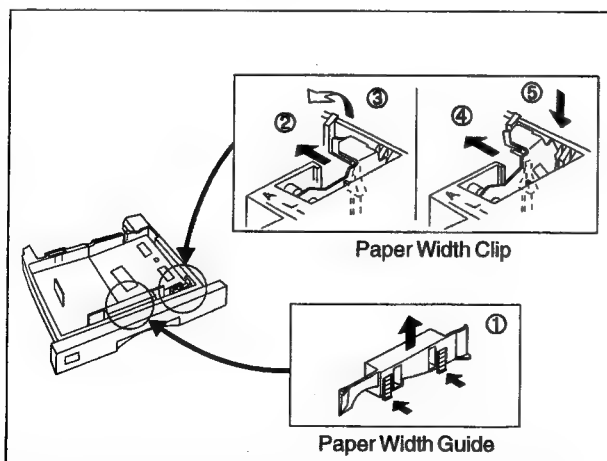


Adjust the Paper Length Guide to the proper paper size (A4, LTR, or LGL).

For LGL size paper, remove the Paper Length Guide and store it in the provided slot in the front left side of the Paper Cassette.

If reloading the same size of paper, skip the step 2 and 3.

3



Adjust the Paper Width Guide and Clip to the proper paper (A4, or LTR/LGL).

The factory default for the Paper Width Guide and Clip are on LTR/LGL position. For A4 paper size, adjust by following the steps below.

(1) Replace the Paper Width Guide into the proper slot (A4 or LTR/LGL).

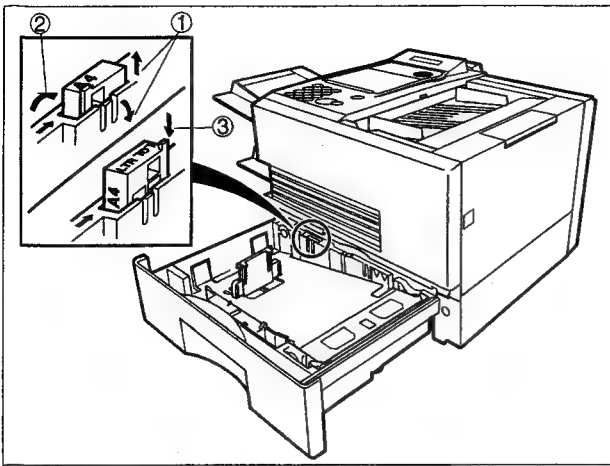
(2) Release the Paper Width Clip latch.

(3) Pull upwards to remove the Paper Width Clip.

(4) Replace the Paper Width Clip into the A(A4) or L(LTR/LGL) slot.

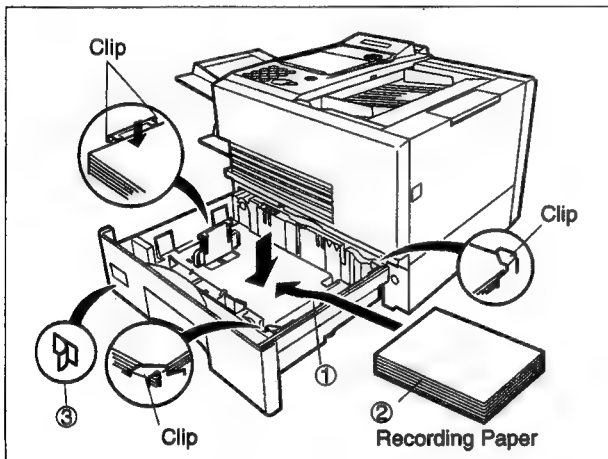
(5) Push down on the Paper Width Clip to latch it in place.

4



- (1) Release the hook and remove the Paper Size Selector.
- (2) Rotate the Paper Size Selector until the appropriate setting marked on the Selector is facing upward and the wording is upright.
- (3) Reinstall the Paper Size Selector.

5

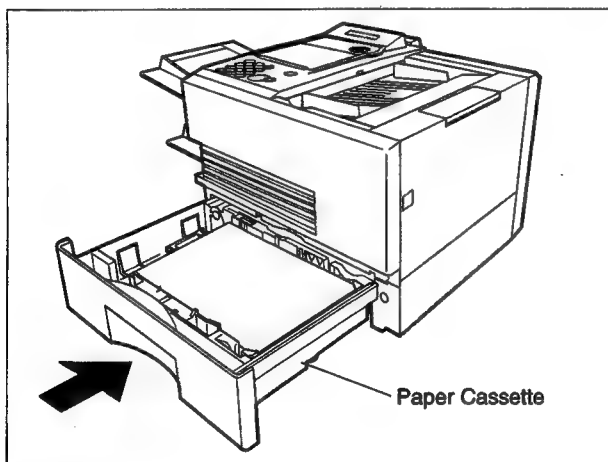


- (1) Push the Pressure Plate until it is locked down.
- (2) Load the paper into the Paper Cassette.

**Caution:** Make sure that the paper is set under the clips of the Paper Cassette. You can load about 500 sheets with standard weight paper (20 lb. or 75 g/m<sup>2</sup>). For paper specification see page 170 of the User's Guide.

- (3) Set the proper paper size label.

6



Slide the Paper Cassette into the machine.



**Note:**

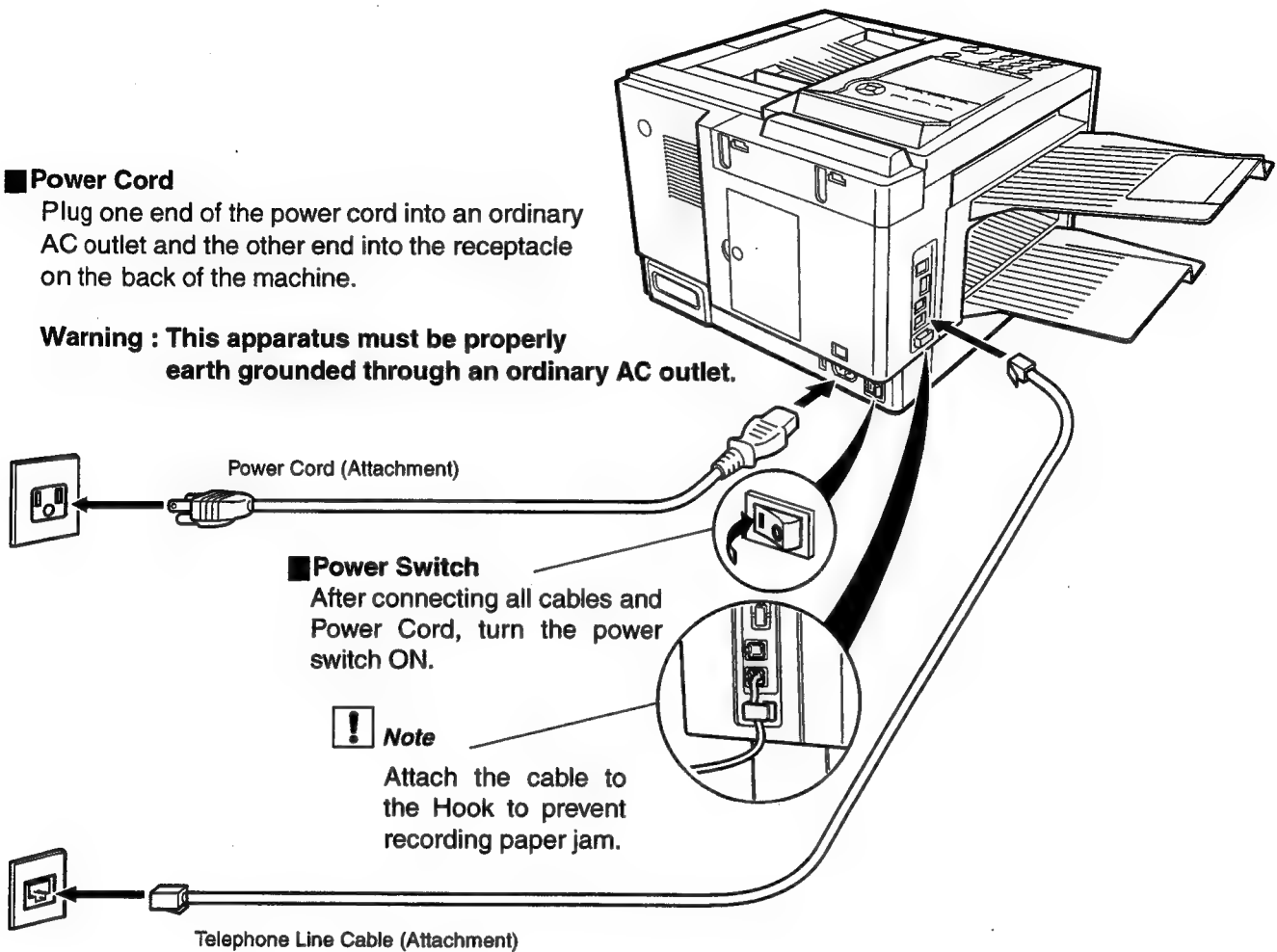
1. Your machine will properly print on A4, Letter and Legal size paper only. If other size of paper (B4, B5, A5) is used, your machine may not print properly.

## 8.6 Connecting the Telephone Line Cable and Power Cord

### ■ Power Cord

Plug one end of the power cord into an ordinary AC outlet and the other end into the receptacle on the back of the machine.

**Warning :** This apparatus must be properly earth grounded through an ordinary AC outlet.



### ■ Telephone Line Cable

Plug one end of the telephone line cable into the telephone jack supplied by the telephone company and the other end into the LINE jack on the left side of the machine.



**Note:**

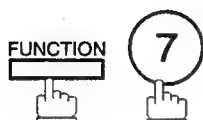
1. Your machine uses little power and you should keep it ON at all times.

## 8.7 Customizing Your Machine

Your facsimile machine has a variety of adjustable Fax Parameters. These parameters, listed in the Parameter Table, are preset for you and do not need to be changed. If you do want to make a change, read the table carefully. Some parameters, such as the Resolution, Contrast, and Verification Stamp parameters, can be temporarily changed by simple key operation just before a transmission is made. When the transmission ends, however, these parameters return to their preset values (Home position). Other parameters can only be changed by the procedure described below.

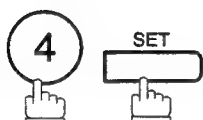
### Setting the Fax Parameters

1



SET MODE (1-6)  
ENTER NO. OR V ^

2



FAX PARAMETER (01-99)  
NO. = ■

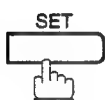
3

Enter Fax Parameter number from the Parameter Table.  
(See pages 35 to 38)

Ex: ① ① for CONTRAST

FAX PARAMETER (01-99)  
NO. = 01

4



01 CONTRAST  
1: NORMAL

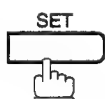
5

Enter the new setting value.

Ex: ② for LIGHTER

01 CONTRAST  
2: LIGHTER

6



02 RESOLUTION  
1: STANDARD

To set another parameter, press **CLEAR** to return to step 3 or press **STOP** to return to standby.

#### Note:

1. To scroll the Fax Parameters in Step 2 or 4, press or .
2. To print out a Fax Parameter List, see page 151 of the User's Guide.

# Fax Parameter Table

No.	Parameter	Setting Number	Setting	Comments
01	CONTRAST	1	Normal	Setting the home position of the CONTRAST key.
		2	Lighter	
		3	Darker	
02	RESOLUTION	1	Standard	Setting the home position of the RESOLUTION key.
		2	Fine	
		3	S-Fine	
04	STAMP	1	Off	Setting the home position of the STAMP key. To select the stamp function when document is stored in memory, see Fax Parameter No. 28.
		2	On	
05	MEMORY	1	Off	Setting the home position of the MEMORY key.
		2	On	
06	DIALING METHOD	1	Pulse	Selecting the dialing method.
		2	Tone	
07	HEADER PRINT	1	Inside	Selecting the printing position of the header. Inside : Inside TX copy area. Outside : Outside TX copy area. No print : Header is not printed.
		2	Outside	
		3	No print	
08	HEADER FORMAT	1	Logo, ID No.	Selecting the header format.
		2	From To	
09	RCV?D TIME PRINT	1	Invalid	Selecting whether the machine prints the received date & time remote ID, percentage of reduction and page number on the bottom of each received page.
		2	Valid	
10	KEY/BUZZER VOLUME	1	Off	Selecting the volume of the Key/Buzzer tone.
		2	Soft	
		3	Loud	
12	COMM. JOURNAL	1	Off	Selecting the home position of printout mode for COMM. Journal Off/Always/INC. Off : No printout Always : Always prints out Inc. only : Printout when communication has failed.
		2	Always	
		3	Inc. only	
13	AUTO JOURNAL PRINT	1	Invalid	Selecting whether the machine prints the journal automatically after every 100 transactions.
		2	Valid	
14	FILE ACCEPTANCE REPORT	1	Invalid	Selecting whether the machine prints the file acceptance journal. If you set this parameter to valid, a journal will print out after any memory communication.
		2	Valid	
17	RECEIVE MODE	1	Manual	Setting the reception mode to automatic or manual.
		2	Auto	
22	SUBSTITUTE RCV	1	Invalid	Selecting whether the machine receives to memory when recording paper runs out, toner runs out or recording paper is jammed.
		2	Valid	

Continued on the next page.

No.	Parameter	Setting Number	Setting	Comments
24	PRINT REDUCTION	1	Fixed	Selecting print reduction mode. Fixed: Reduce received document according to setting of Parameter No. 25. Auto: Reduce received document according to the length of received documents.
		2	Auto	
25	REDUCTION RATIO	70	70%	Selecting fixed print reduction ratio from 70% to 100%. This parameter functions only when fixed print reduction is selected on Fax Parameter No. 24.
		----	----	
		100	100%	
26	POLLING PASSWORD		(----	Setting a 4-digit password for secured polling. (See page 68)
27	POLLED FILE SAVE	1	Invalid	Selecting whether the machine retains the polled document in memory even after the document is polled once.
		2	Valid	
28	STAMP AT MEM. XMT	1	Invalid	Selecting whether the machine stamps the original documents when storing the documents into memory. (depending on the Stamp setting on the Control Panel)
		2	Valid	
30	DRD SERVICE	1	Invalid	Selecting whether or not the machine is available "DRD Service". If this parameter is set to "Valid", your machine detects the specified ring pattern only to receive a document automatically.
		2	Valid	
31	INCOMPLETE FILE SAVE	1	Invalid	Selecting whether the machine retains the document in memory if the document is not successfully transmitted.
		2	Valid	
32	COPY REDUCTION	1	Manual	Selecting whether the machine performs the copy reduction ratio automatically or manually. Manual : The machine will prompt you for the Zoom ratio (100% to 70%) when making copies. Auto : The machine will automatically determine the reduction ratio according to the length of the original document.
		2	Auto	
33	XMT REDUCTION	1	Invalid	Selecting whether the machine performs reduction when the transmitting document is wider than the recording paper used at the receiving machine.
		2	Valid	
34	ENERGY SAVER MODE	1	Off	To reduce the power consumption in standby, select either Energy-Saver or Sleep mode and specify the Delay Time (1 to 120 minutes) for the machine to enter into the selected mode. The Delay Timer setting is only available in the Energy-Saver or Sleep Modes.  Off : The unit will remain in standby mode and consume more energy than when in Energy-Saver or Sleep modes. Energy-Saver Mode: Saves energy by consuming less power than when in standby mode by turning off the fuser unit after the specified time. Sleep Mode: This is the lowest power state that the machine enters after the specified time without actually turning off. (Sleep Mode is not available when the optional Parallel Port Interface Kit, Page Description Language Printer Interface Kit or G3 Communication Port Kit is installed)
		2	Energy-Saver	
		3	Sleep	

Continued on the next page.

No.	Parameter	Setting Number	Setting	Comments
37	RCV TO MEMORY		(---)	Enter a 4-digit password used to print out the received document in memory by using F8-5 (RCV TO MEMORY). When F8-5 is set to On, this parameter will not be shown on the LCD display. (See page 87 of the User's Guide.)
38	ACCESS CODE		(---)	Enter a 4-digit Access Code to secure the machine from unauthorized use. (See page 85 of the User's Guide.)
40	RELAY XMT REQUEST	1	Invalid	Selecting whether the machine accepts and performs Relay XMT Request. (See page 125 of the User's Guide.)
		2	Valid	
41	CONF. FAX PARAMETER	1	Invalid	Selecting whether the machine performs Confidential Network Communication. (See page 125 of the User's Guide.)
		2	Valid	
42	CONF. POLLED FILE SAVE	1	Invalid	Selecting whether the machine saves the confidential polled file even after the file is polled once.
		2	Valid	
43	PASSWORD-XMT	1	Off	Setting a 4-digit XMT-Password and selecting whether the machine performs and checks the XMT-Password of the receiving station when transmitting. (See page 113 of the User's Guide.)
		2	On	
44	PASSWORD-RCV	1	Off	Setting a 4-digit RCV-Password and selecting whether the machine performs and checks the RCV-Password of the transmitting station when receiving. (See page 114 of the User's Guide.)
		2	On	
46	SELECT RCV	1	Invalid	Selecting whether the machine performs selective reception. (See page 111 of the User's Guide.)
		2	Valid	
48	TELEPHONE LINE	1	PSTN	Selecting the type of line connected.
		2	PBX	
49	PSTN ACCESS CODE		0---	Setting PSTN Access Code. (max. 4 digits)
50	FLASH KEY	1	Earth	Selecting to use FLASH on control panel either as Earth key or Flash key.
		2	Flash	
52	DIAGNOSTIC PASSWORD		(---)	Setting the password for Remote Diagnostic Mode. Please ask your Panasonic Authorized Dealer for details.
53	SUB-ADDRESS PASSWORD		(---)	Setting a 20-digit password for secured sub-address communication.
54	FAX FORWARD	1	Invalid	Selecting whether the machine performs Fax Forwarding to the specified destination. (See page 92 of the User's Guide.)
		2	Valid	
56	COVER SHEET	1	Off	Setting the home position of the Cover Sheet parameter in the Select Mode. (See page 90 of the User's Guide.)
		2	On	
58	LANGUAGE	1	English	Selecting the language to be shown on the display and reports.
		2	German	
60	OPTION PAGE MEMORY (D-RAM Card)	1	0MB	Set the size of the page memory to match the optional Expansion D-RAM Card installed in the machine. (See page 171 of the User's Guide.)
		2	2MB	
		3	4MB	
		4	8MB	

Continued on the next page.



No.	Parameter	Setting Number	Setting	Comments
65	PRINT COLLATION	1	Invalid	Selecting whether the machine prints out documents in sequence. (See page 63 of the User's Guide.)
		2	Valid	
77	LOGO/DEPT. CODE	1	Invalid	Selecting whether the machine performs the Multiple Logo or Department Code operation. (See pages 97 and 106 of the User's Guide.)
		2	Multi-LOGO	
		3	Dept.Code	
82	QUICK MEMORY XMT	1	Invalid	Selecting whether the machine performs Quick Memory Transmission. (See page 46 to 49 of the User's Guide.)  Invalid: Stores all documents into memory first before dialing the telephone number. Valid: Starts dialing the telephone number immediately after storing the first page.
		2	Valid	
88	LINE SELECTION [See Note 2]	1	Auto	Setting the home position of the Telephone Line selection.  Auto: Selects the available telephone line for transmission automatically. Line1: Selects this as the default telephone line, unless manually selecting an alternate phone line. Line2: Selects this as the default telephone line, unless manually selecting an alternate phone line.
		2	Line 1	
		3	Line 2	
99	MEMORY SIZE (Flash Memory)	-	-	Displays the amount of base and optional memory installed. (Base Memory + Optional Memory)




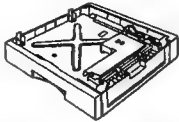
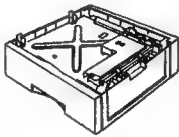


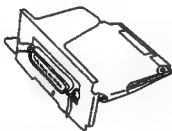
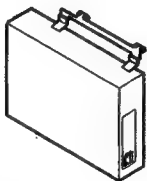
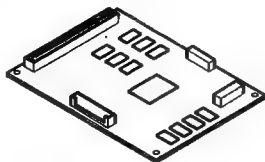
**Note:**

1. The standard settings are printed on the Fax Parameter List. To print out Fax Parameter List, see page 151 of the User's Guide.
2. This parameter is available only when the G3 Communication Port Option is installed.
3. The contents of Fax Parameter may differ depending on the each country's regulation or specification.


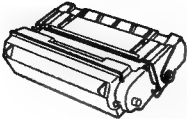
## 9 Options and Supplies

### 9.1 Options and Supplies

#### A. Options:

Order No.	Picture	Description	Available Models
UE-403160		Handset Kit	UF-885 UF-895
UE-409057		250 sheets Letter / Legal / A4 Size Paper Cassette with the Feeder Unit	UF-885 UF-895
UE-409056		500 sheets Letter / Legal / A4 Size Paper Cassette with the Feeder Unit	UF-885 UF-895
UE-410045		Expansion Flash Memory Card, 1 MB	UF-885 UF-895
UE-410046		Expansion Flash Memory Card, 2 MB	
UE-410047		Expansion Flash Memory Card, 4 MB	
UE-410048		Expansion Flash Memory Card, 8 MB	
UE-410033		Expansion D-RAM Card, 2MB	UF-885 UF-895
UE-410034		Expansion D-RAM Card, 4MB	
UE-410057		Expansion D-RAM Card, 8MB	
UE-403159		Parallel Port Interface Kit (Used for Printer or Scanner Interface) (Available in late Spring of 1999)	UF-885 UF-895
UE-407019		G3 Communication Port Kit (Available in late Spring of 1999) This option is NOT available together with the Page Description Language Printer Interface Kit (UE-403162).	UF-895
UE-403162		Page Description Language Printer Interface Kit (Available in late Summer of 1999) This option is NOT available together with the G3 Communication Port Kit (UE-407019).	UF-885 UF-895

**B. Supplies:**

Order No.	Picture	Description	Available Models
FX-13-2P		Verification Stamp	UF-885 UF-895
UG-3313		Toner Cartridge	UF-885 UF-895

## 9.2 Installing Optional Feeder Unit (UE-409057)

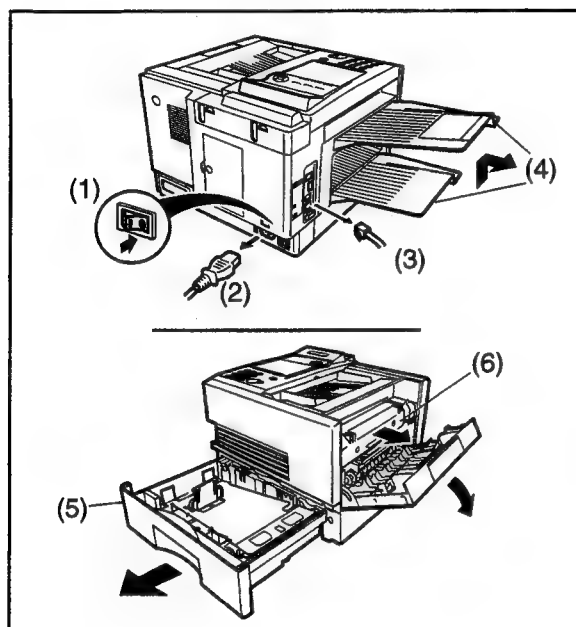
### 1. Contents

Qty.	Description	Part No.	Remarks
1	250 Sheets Paper Cassette with Feeder Unit	-	
1	Paper Size Label Set	DZNK000298	

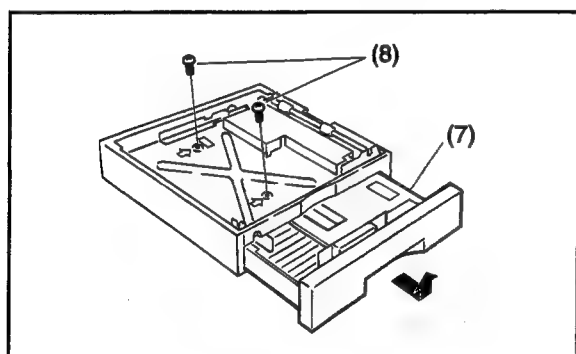
### 2. Installation

**Note:**

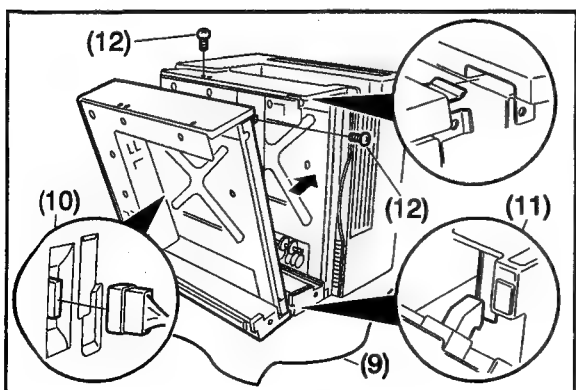
Install this Feeder Unit as the 2nd Feeder Unit only.



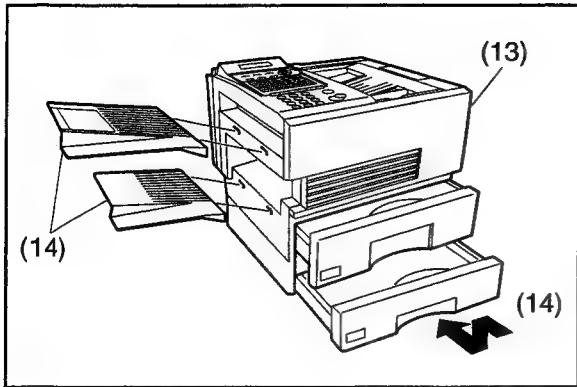
- (1) Turn the Power Switch to the OFF (O) position.
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cable.
- (4) Remove the Document Trays.
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.



- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit indicated by the arrow marks. (These screws are used to attach the Feeder Unit to the machine in step 12.)



- (9) Place the machine on its right side on top of a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.



- (13) Place the machine upright.
- (14) Re-install the Document Trays, the Paper Cassettes and the Toner Cartridge.
- (15) Re-connect the Power Cord and the Telephone Line Cable.
- (16) Turn the Power Switch to the ON (I) position.
- (17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:**

The paper size guides are factory set to the Letter size. If you are using either A4 or Legal size paper, please adjust the paper size guides accordingly.

## 9.3 Installing Optional Feeder Unit (UE-409056)

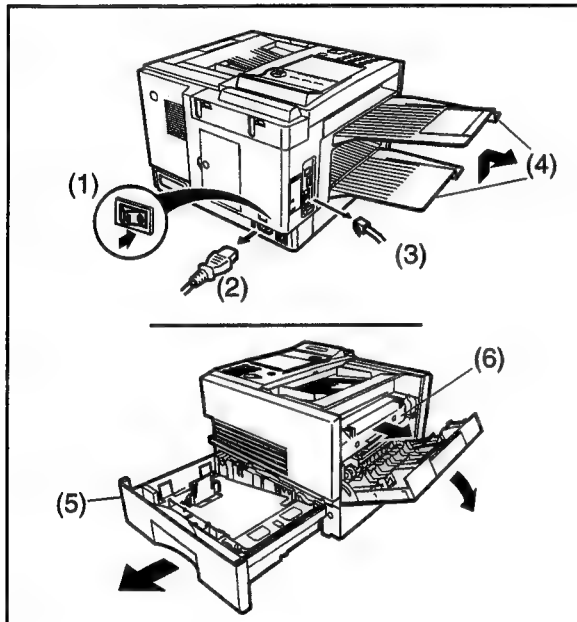
### 1. Contents

Qty.	Description	Part No.	Remarks
1	500 Sheets Paper Cassette with Feeder Unit	-	
1	Paper Size Label Set	DZNK000298	

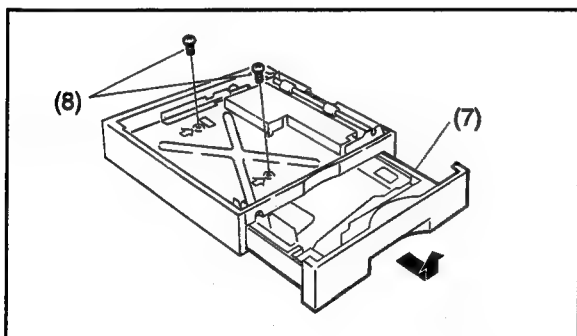
### 2. Installation

#### Note:

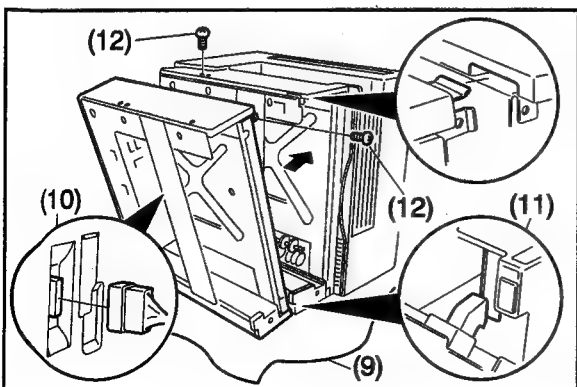
Always install this Feeder Unit at the base of the unit. Install it as the 2nd Feeder Unit when configured for two cassettes or as the 3rd Feeder Unit when configured for three cassettes.



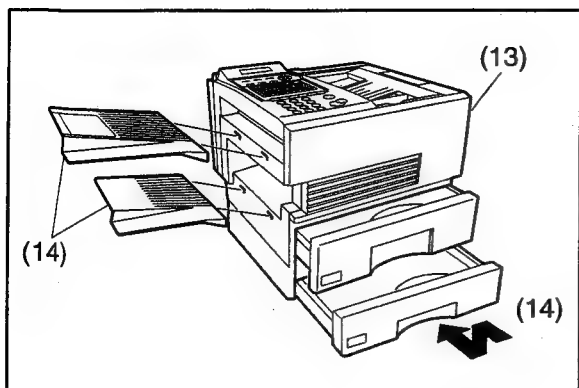
- (1) Turn the Power Switch to the OFF (O) position.
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cable.
- (4) Remove the Document Trays
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.



- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit indicated by the arrow marks. (These screws are used to attach the Feeder Unit to the machine in step 12.)



- (9) Place the machine on its right side on top of a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.



(13) Place the machine upright.

(14) Re-install the Document Trays, the Paper Cassettes and the Toner Cartridge.

(15) Re-connect the Power Cord and the Telephone Line Cable.

(16) Turn the Power Switch to the ON (I) position.

(17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:**

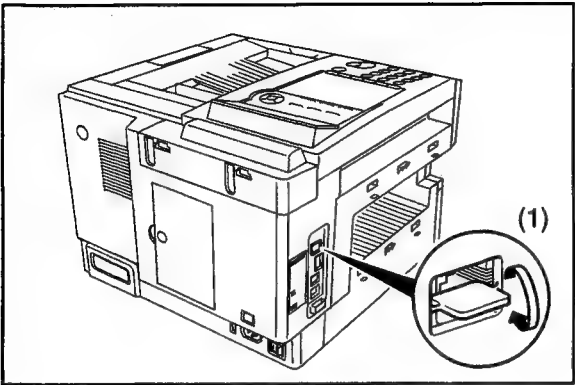
The paper size guides are factory set to the Letter size. If you are using either A4 or Legal size paper, please adjust the paper size guides accordingly.

# 9.4 Installing Handset Kit (UE-403160)

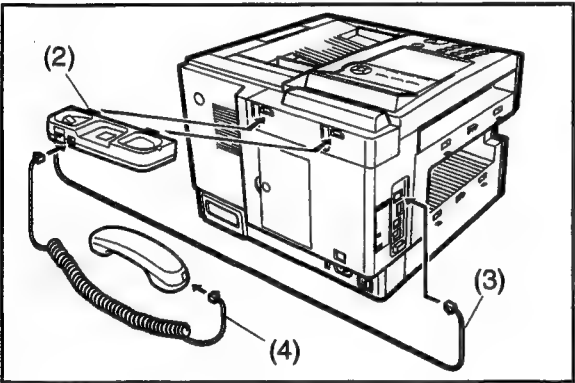
## 1. Contents

Qty.	Description	Part No.	Remarks
1	Handset	DZDU000031	
1	Handset Cord	DZFN000066	
1	Cradle Assembly	DZML000132	

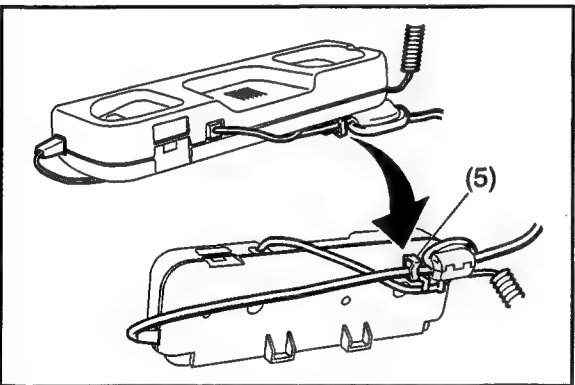
## 2. Installation



(1) Break off the protective tab of the HANDSET Jack.



- (2) Hook the projections of the Cradle Assembly into the holes on the rear of the machine.
- (3) Connect the cable from the Cradle Assembly to the HANDSET Jack on the left side of the machine.
- (4) Connect the Handset Cord.



(5) Route the Handset Cord along the hooks on the bottom of the Cradle Assembly.



## 9.5 Installing Parallel Port Interface Kit (UE-403159)

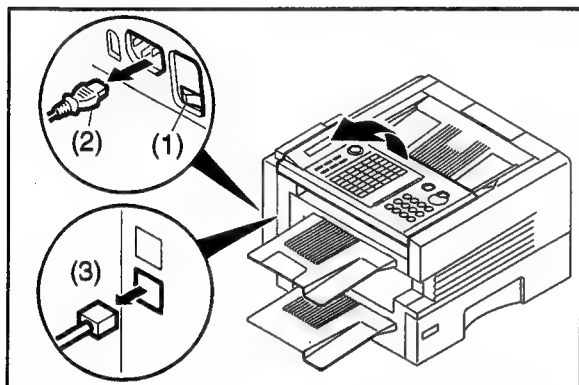
### 1. Contents

Qty.	Description	Part No.	Remarks
1	Parallel Port Interface Assembly	DZMA001832	-
1	Ribbon Cables	DZHP002970	-
1	Screw, 3x8	XTB3+8J	-
1	Print/Twain Scanner Driver Diskette	DZQW000112	Floppy Disk 2HD

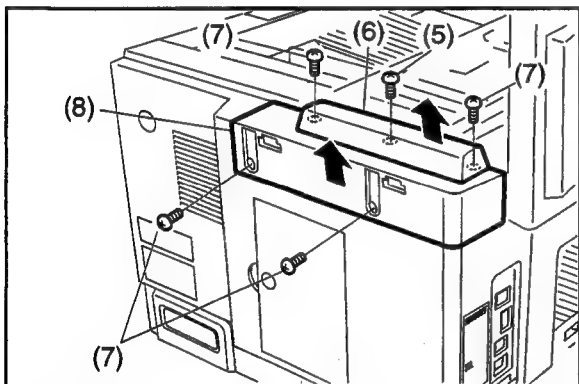
### 2. Installation

#### Note:

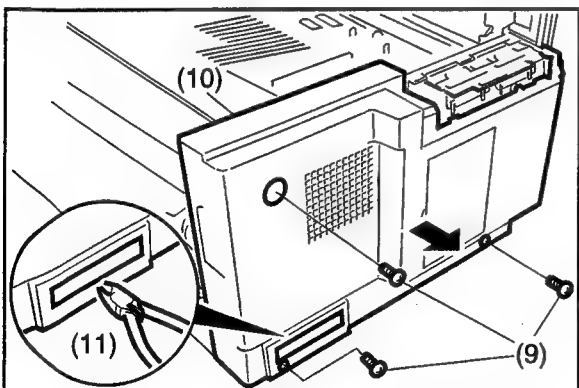
Before starting the installation, prepare the Master Firmware Card with the appropriate Optional Firmware. (See page 48)



- (1) Turn the Power Switch to the OFF (O) position.
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cable.



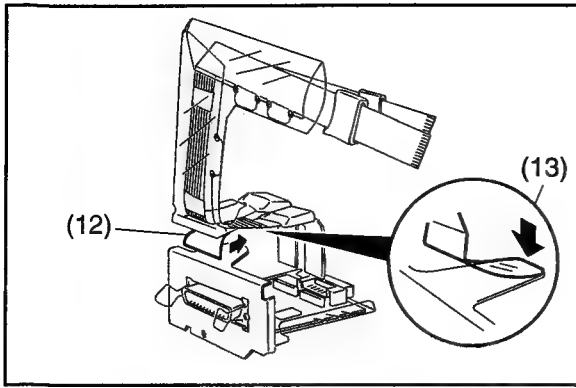
- (4) Open the Control Panel.
- (5) Remove 1 Screw.
- (6) Remove the Memory Card Cover.
- (7) Remove 4 Screws.
- (8) Remove the Sub Rear Cover.



- (9) Remove 3 Screws.
- (10) Remove the Rear Cover.
- (11) Break off the protective tab.

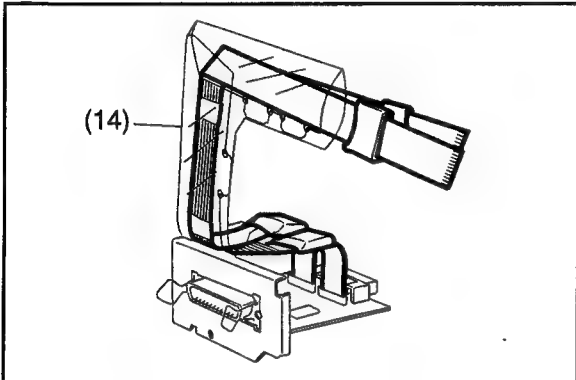
#### Note:

Order a Protective Bracket (P/N: DZJA000633) to cover up the opening if the interface is removed.

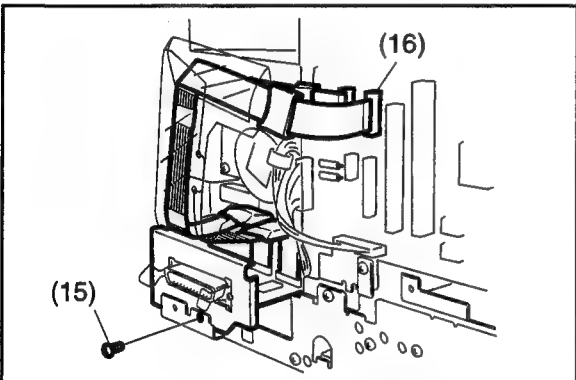


(12) Peel off the brown adhesive protector from the protective film.

(13) Secure the protective film to the top of the Parallel Port Interface Bracket as illustrated on the left.

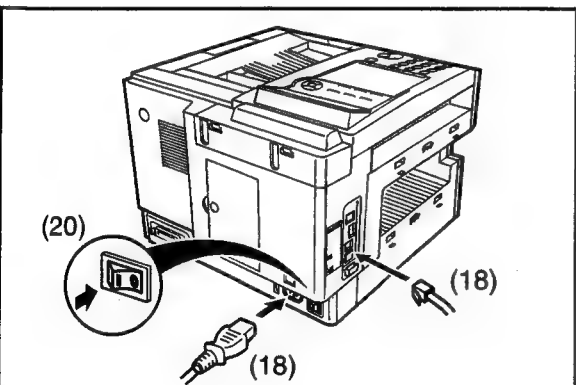


(14) Connect the Ribbon Cables as illustrated on the left.



(15) Secure the Parallel Interface Assembly with the screw that was enclosed with the kit.

(16) Connect the Ribbon Cables to the CN51 and CN52 on the FCB PC Board.



(17) Re-install the Rear Cover.

(18) Re-connect the Power Cord and the Telephone Line Cable.

(19) Insert the Master Firmware Card that you have prepared into the machine.

(20) Turn the Power Switch to the ON (I) position.

(21) Perform the Service Mode 9-1 (Firmware Update). (See page 186)

(22) Perform the Service Mode 6 (Parameter Initialization). (See page 179)

(23) Turn the Power Switch to the OFF (O) position.

(24) Remove the Master Firmware Card.

(25) Re-install the remaining Covers.

(26) Turn the Power Switch to the ON (I) position.

## 9.6 Installing Page Description Language Printer Interface Kit (UE-403162)

### 1. Contents

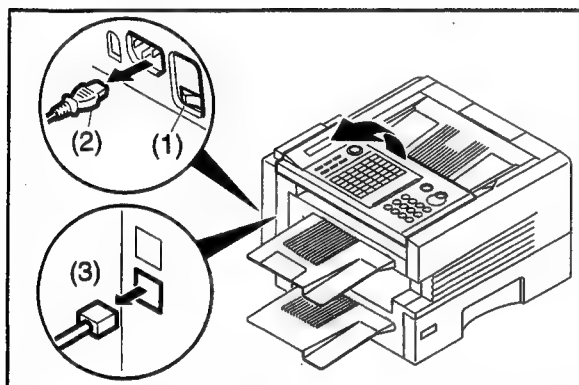
Qty.	Description	Part No.	Remarks
1	Enhanced Printing PC Board	DZEC101411	-
1	PCB Spacer	DZJH000059	-
1	Parallel Port Interface Assembly	DZMA001832	-
1	Ribbon Cables	DZHP002970	-
1	Screw, 3x8	XTB3+8J	-
1	Print Driver	DZQX000003	Floppy Disk 2HD

### 2. Installation

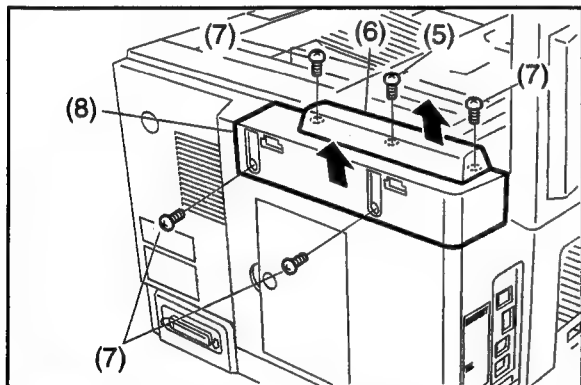
#### Note:

Make sure that the Parallel Port Interface Assembly has been installed before installing the Enhanced Printing PC Board. Refer to page 274 and 275 to install the Parallel Port Interface Assembly.

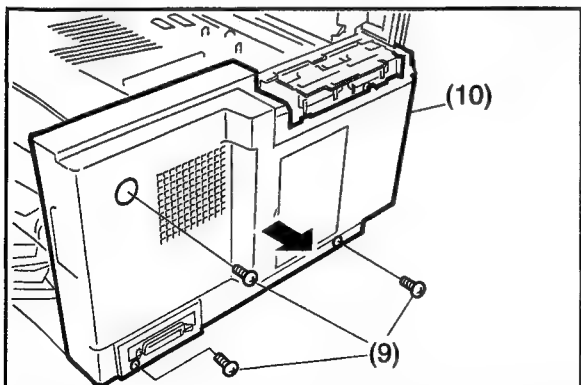
Before starting the installation, prepare the Master Firmware Card with the appropriate Optional Firmware. (See page 48)



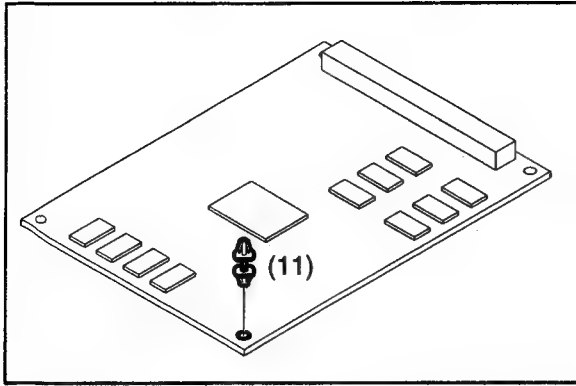
- (1) Turn the Power Switch to the OFF (O) position.
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cable.



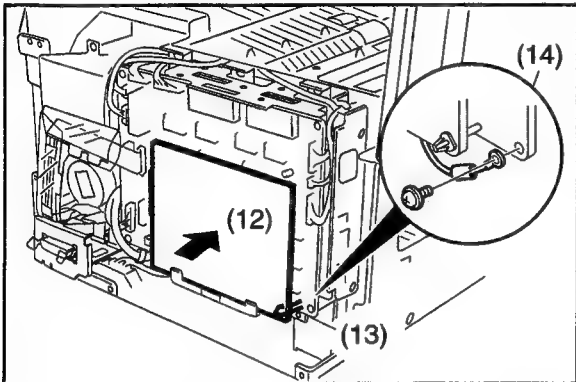
- (4) Open the Control Panel.
- (5) Remove 1 Screw.
- (6) Remove the Memory Card Cover.
- (7) Remove 4 Screws.
- (8) Remove the Sub Rear Cover.



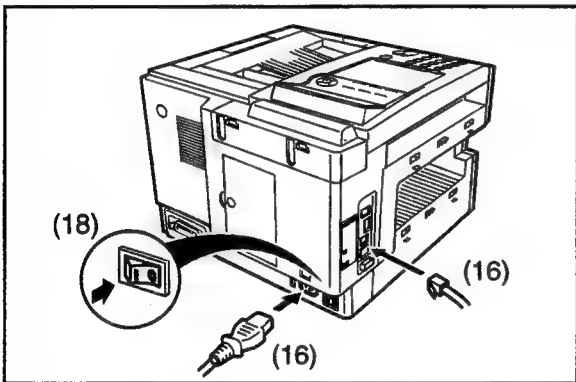
- (9) Remove 3 Screws.
- (10) Remove the Rear Cover.



- (11) Insert the PCB Spacer into the hole on the Enhanced Printing PC Board.



- (12) Connect the Enhanced Printing PC Board to the CN55 on the FCB PC Board.  
 (13) Secure the Enhanced Printing PC Board by inserting the PCB Spacer into the hole on the FCB PC Board.  
 (14) Remove 1 Screw on the FCB PC Board and connect the GND Cable with the screw.



- (15) Re-install the Rear Cover.  
 (16) Re-connect the Power Cord and the Telephone Line Cable.  
 (17) Insert the Master Firmware Card that you have prepared into the machine.  
 (18) Turn the Power Switch to the ON (I) position.  
 (19) Perform the Service Mode 9-1 (Firmware Update). (See page 186)  
 (20) Perform the Service Mode 6 (Parameter Initialization).  
 (21) Turn the Power Switch to the OFF (O) position.  
 (22) Remove the Master Firmware Card.  
 (23) Re-install the remaining Covers.  
 (24) Turn the Power Switch to the ON (I) position.

## 9.7 Installing G3 Communication Port Kit (UE-407019)

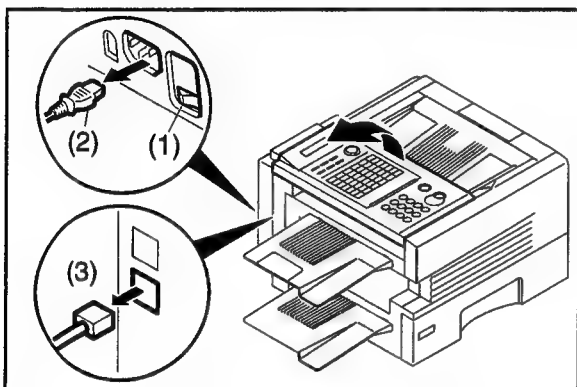
### 1. Contents

Qty.	Description	Part No.	Remarks
1	G3 PCB Assembly	DZEC101274	-
2	Screw. 3x8	XYN3+F8	-
1	Ribbon Cable	DZFP000709	-
2	Screw. 3x8	DZPB000007	Silver Colored Screw

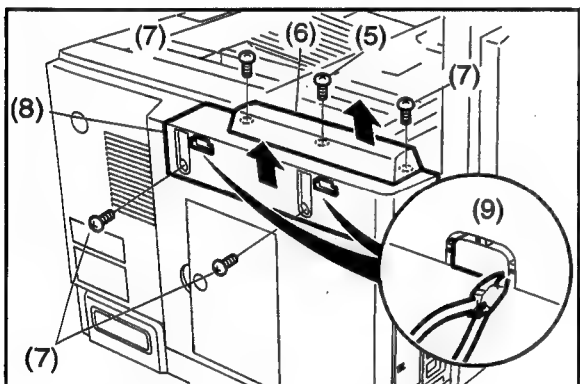
### 2. Installation

#### Note:

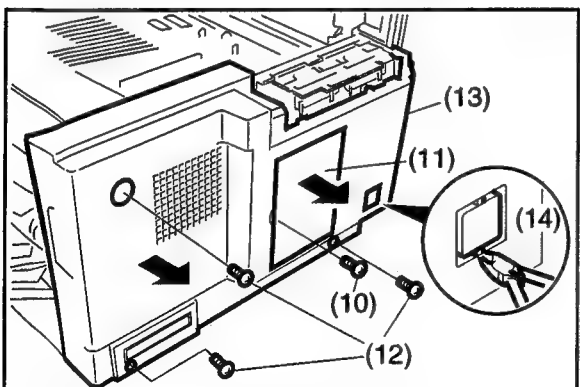
Before starting the installation, prepare the Master Firmware Card with the appropriate Optional Firmware. (See page 48)



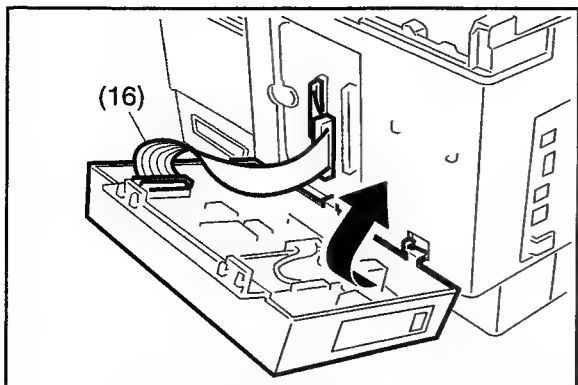
- (1) Turn the Power Switch to the OFF (O) position.
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cable.
- (4) Open the Control Panel.



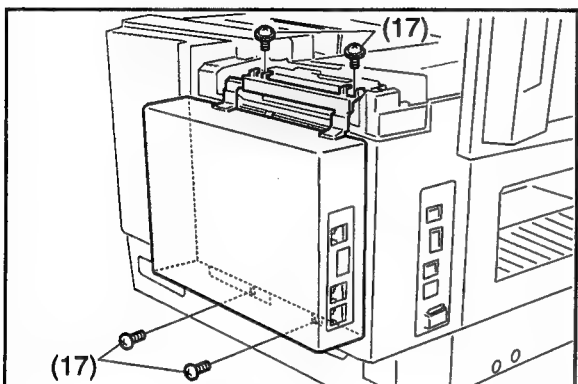
- (5) Remove 1 Screw.
- (6) Remove the Memory Card Cover.
- (7) Remove 4 Screws.
- (8) Remove the Sub Rear Cover.
- (9) Break off the protective tabs on the Sub Rear Cover.



- (10) Remove 1 Screw.
- (11) Remove the Rear Access Cover.
- (12) Remove 3 Screws.
- (13) Remove the Rear Cover.
- (14) Break off the protective tab.
- (15) Re-install the Rear Cover.



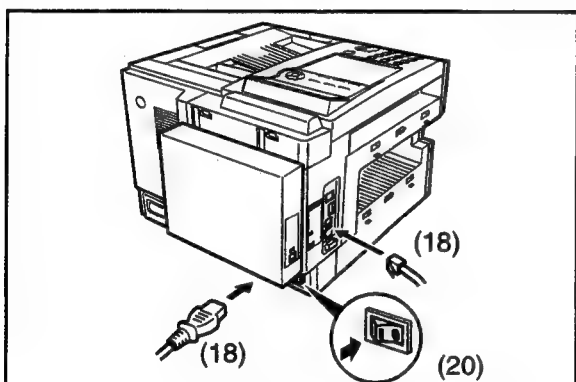
- (16) Connect one end of the Ribbon Cable to CN50 on the FCB PC Board and the other to the G3 PC Board.



- (17) Secure the G3 PCB Assembly using the 4 Screws which came with the kit.

**Note:**

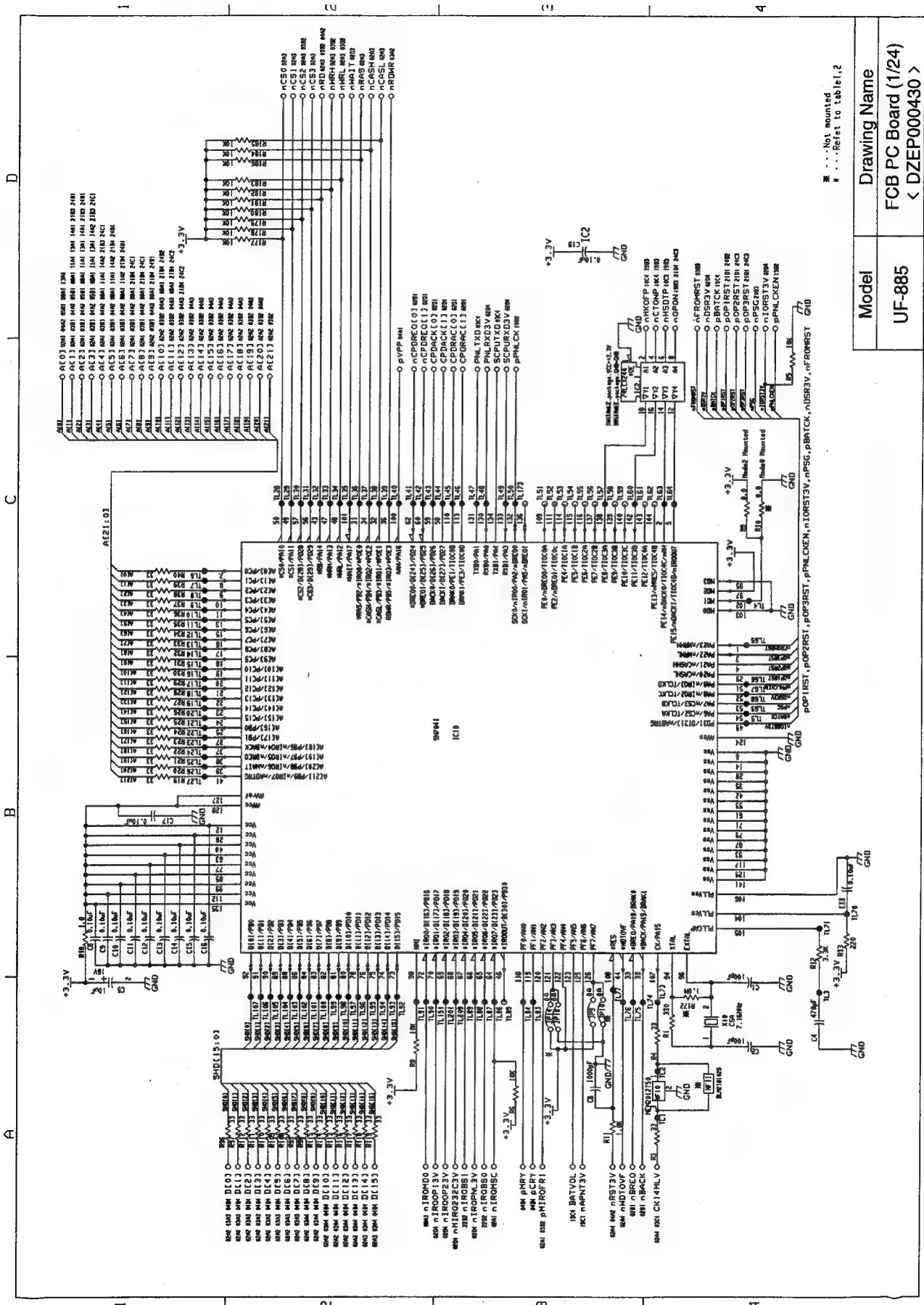
2 screws (XYN3+F8) on the top and the other 2 screws (DZPB000007) on the bottom as illustrated on the left.

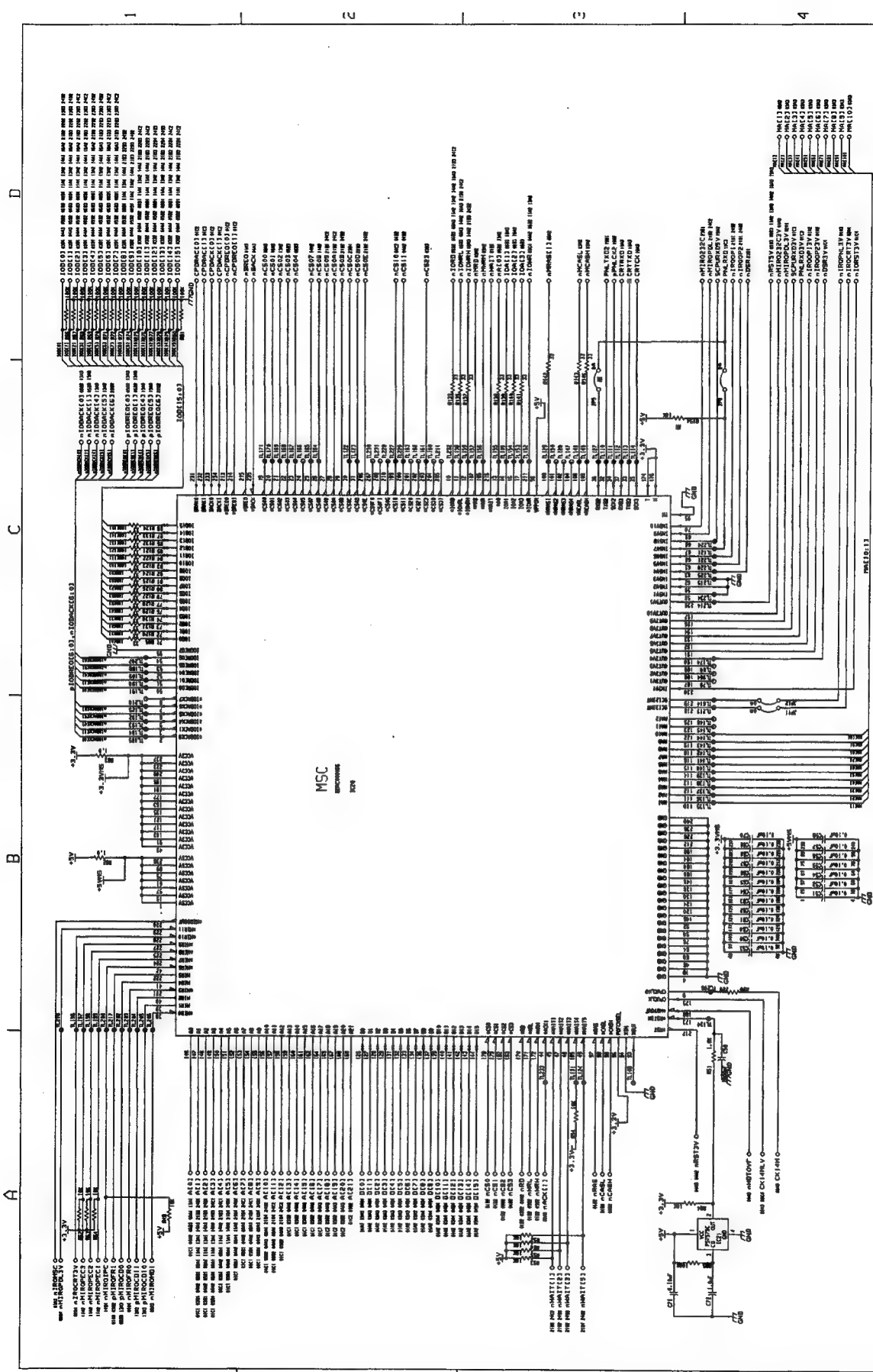


- (18) Re-connect the Power Cord and the Telephone Line Cable.  
 (19) Insert the Master Firmware Card that you have prepared into the machine.  
 (20) Turn the Power Switch to the ON (I) position.  
 (21) Perform the Service Mode 9-1 (Firmware Update). (See page 186)  
 (22) Perform the Service Mode 6 (Parameter Initialization).  
 (23) Turn the Power Switch to the OFF (O) position.  
 (24) Remove the Master Firmware Card.  
 (25) Re-install the remaining Covers.  
 (26) Turn the Power Switch to the ON (I) position.

# 10 Schematic Diagram

## 10.1 FCB PC Board (UF-885)

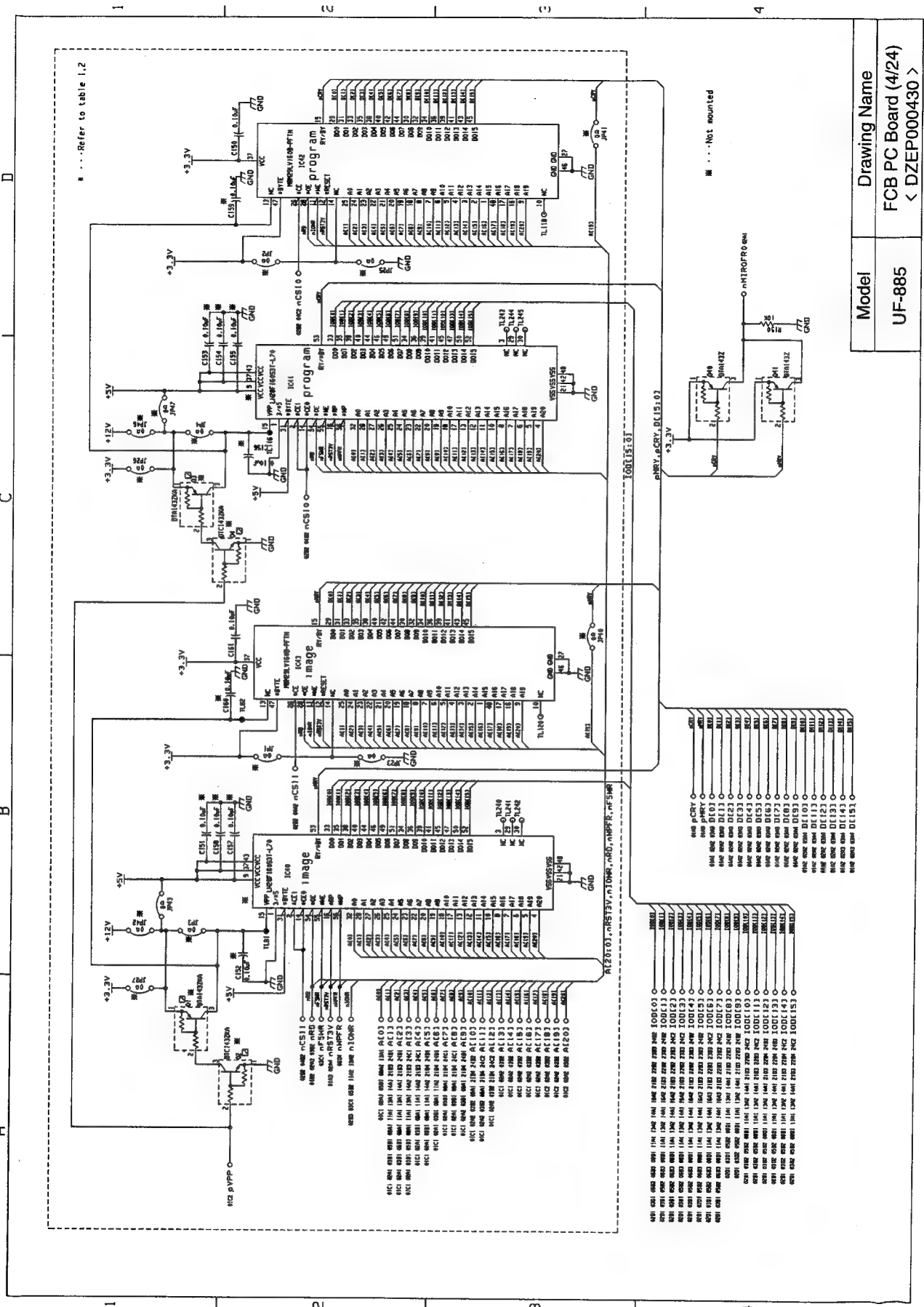




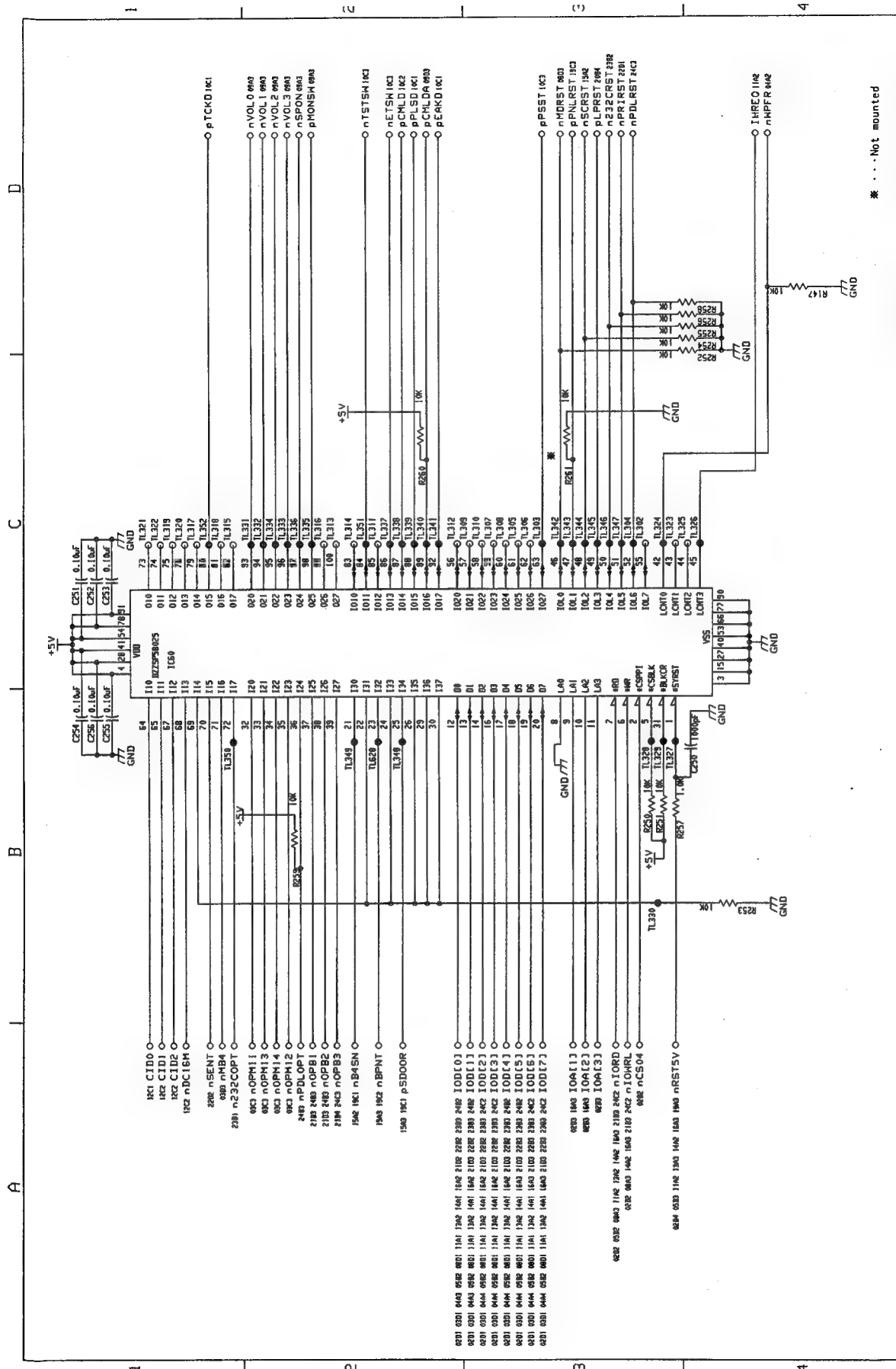
Model	Drawing Name
UF-885	FCB PC Board (2/24) < DZEP000430 >





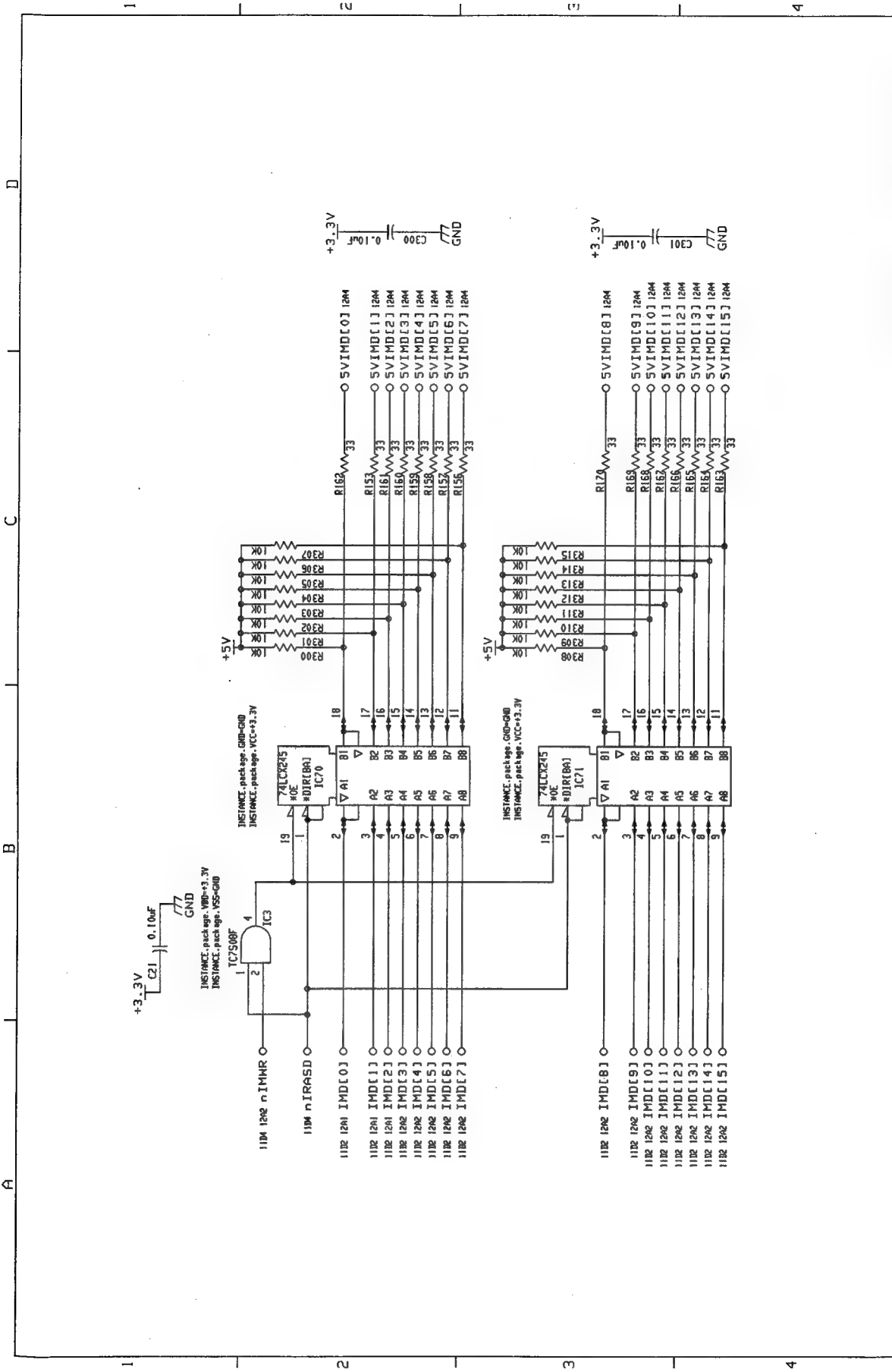




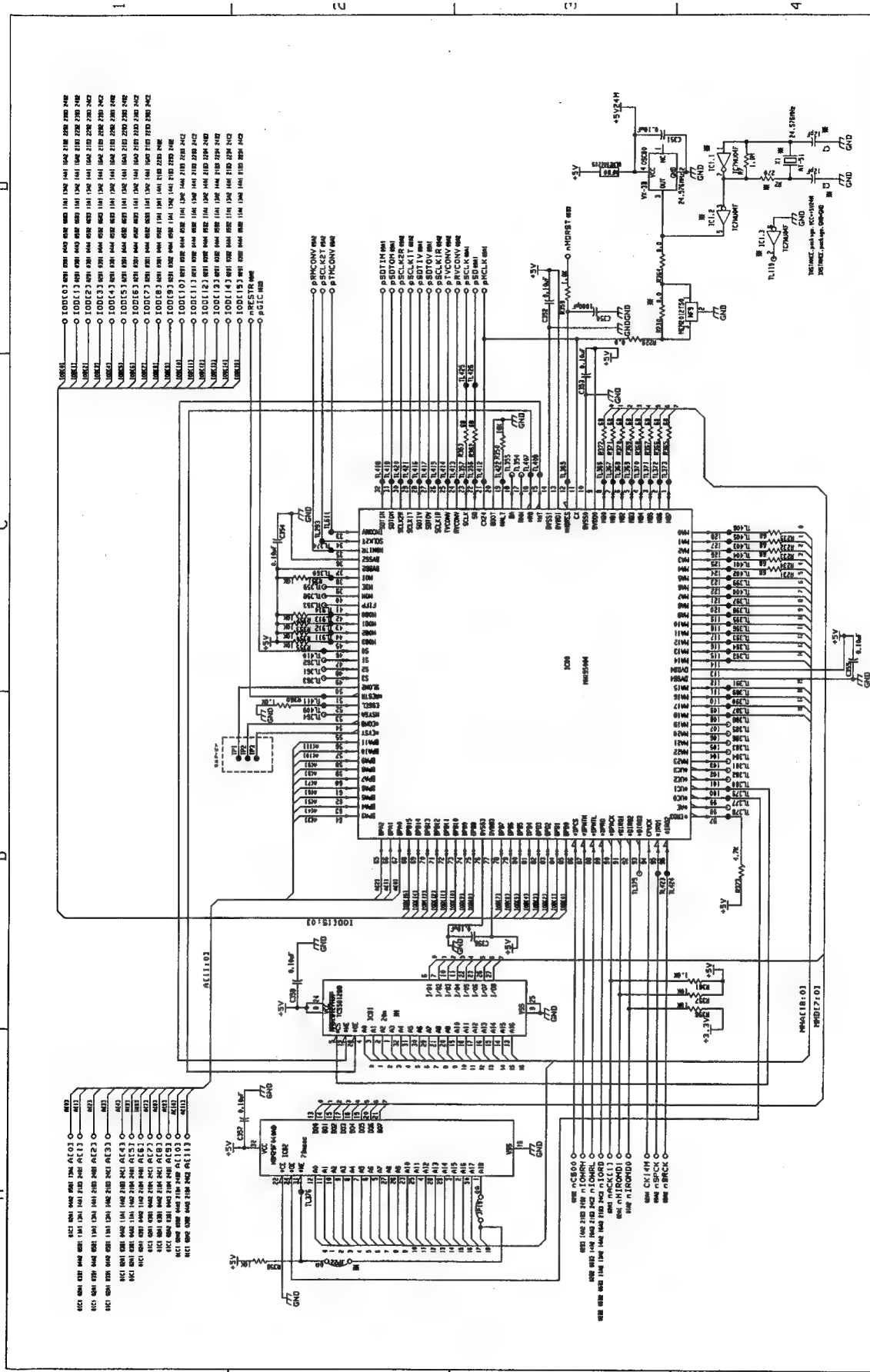


\* ... Not mounted

Model	Drawing Name
UF-885	FCB PC Board (6/24) < DZEP000430 >



Model	Drawing Name
UF-885	FCB PC Board (7/24)
	< DZEP000430 >



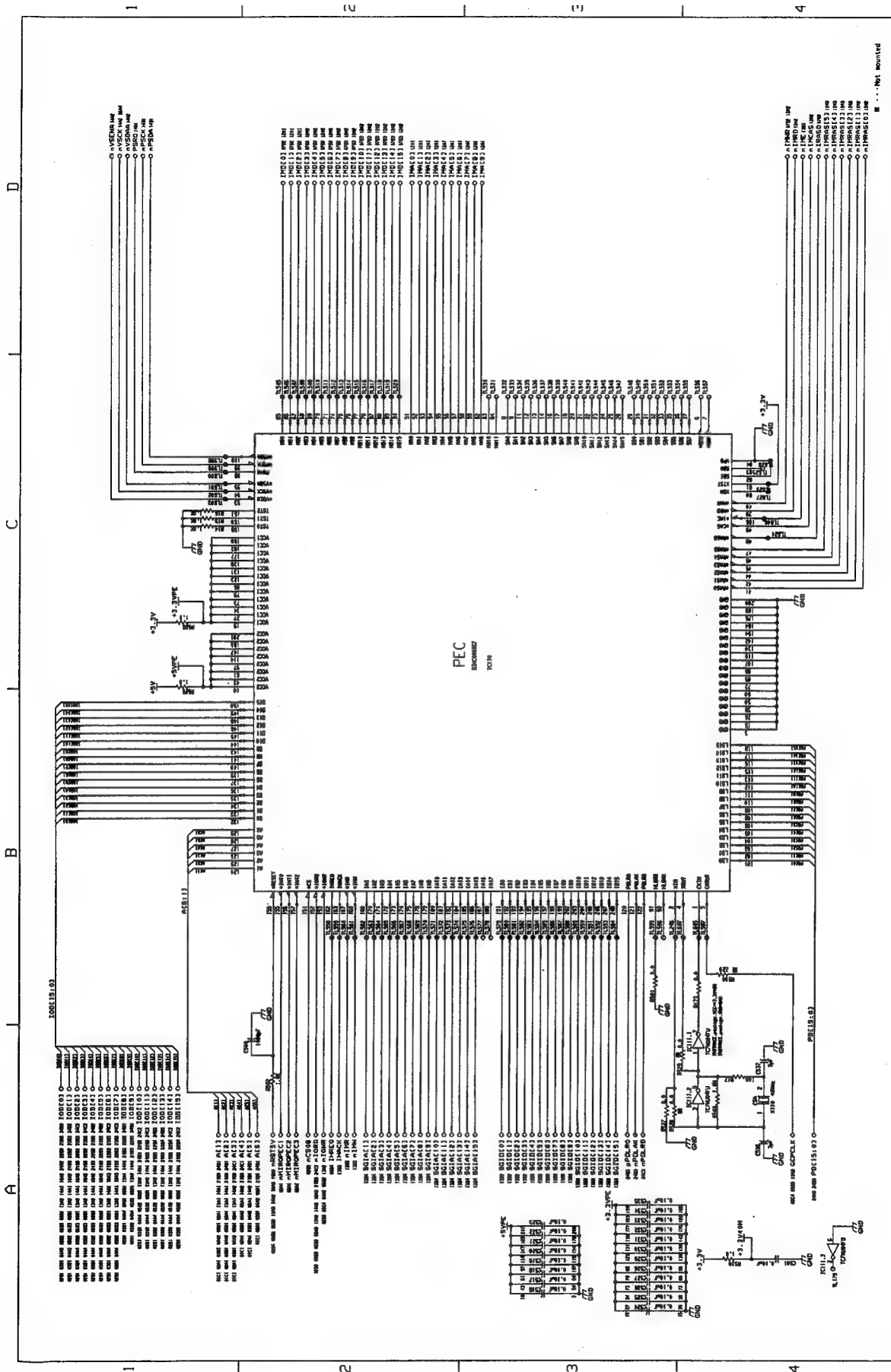
...Not mounted

Model	Drawing Name
UF-885	FCB PC Board (8/24)
	< DZEP000430 >

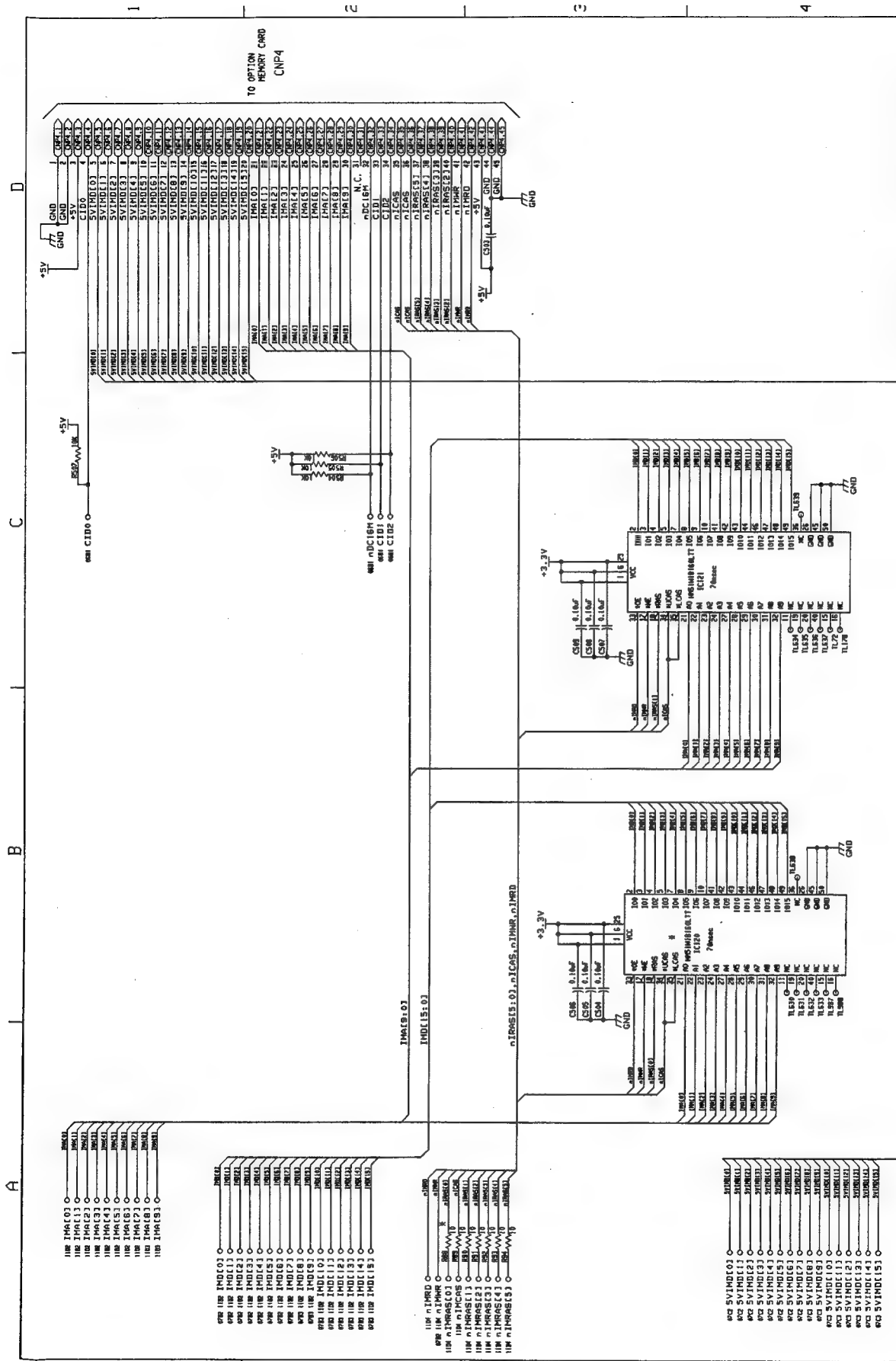




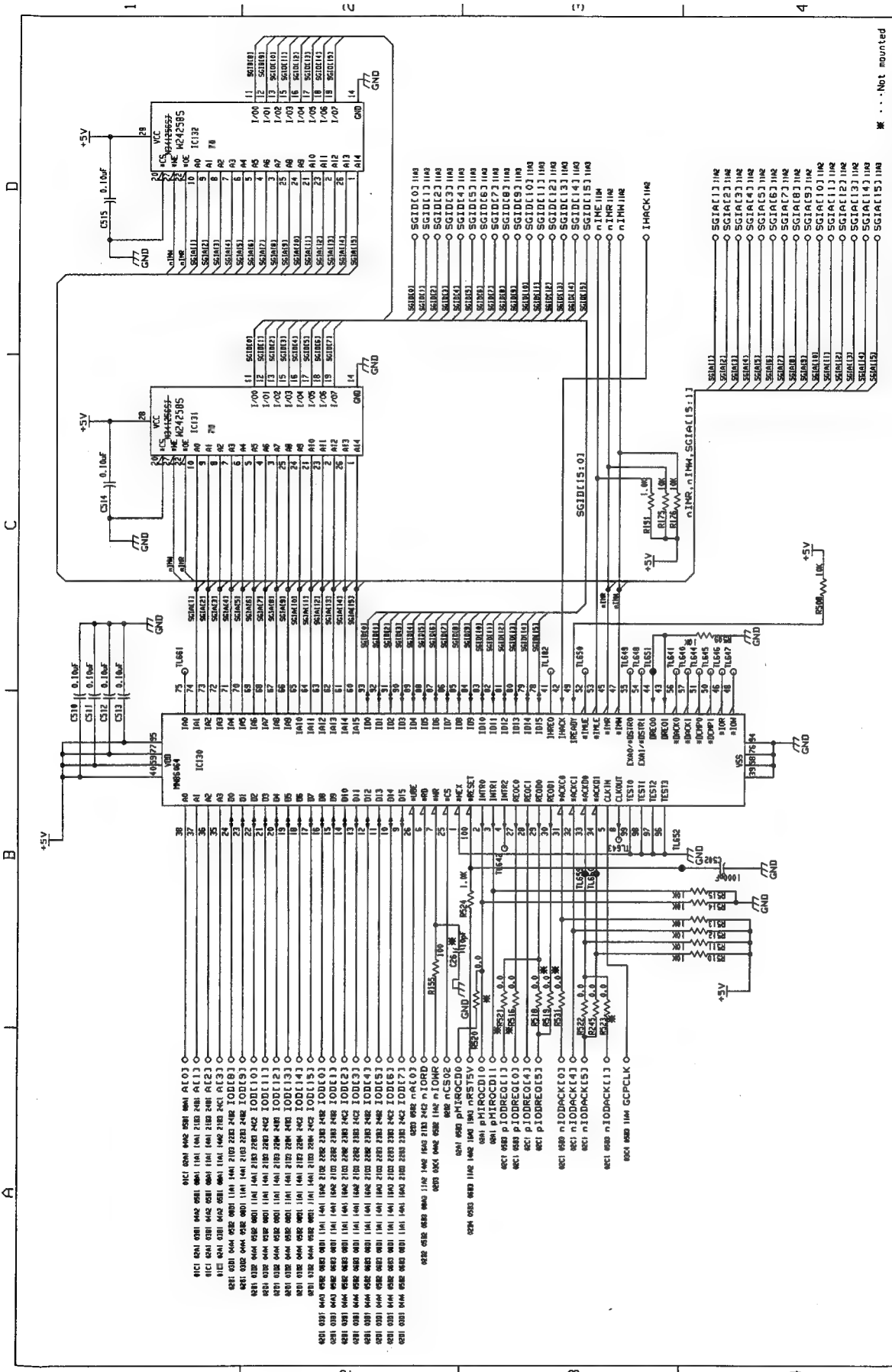




Model	Drawing Name
UF-885	FCB PC Board (11/24) < DZEP000430 >



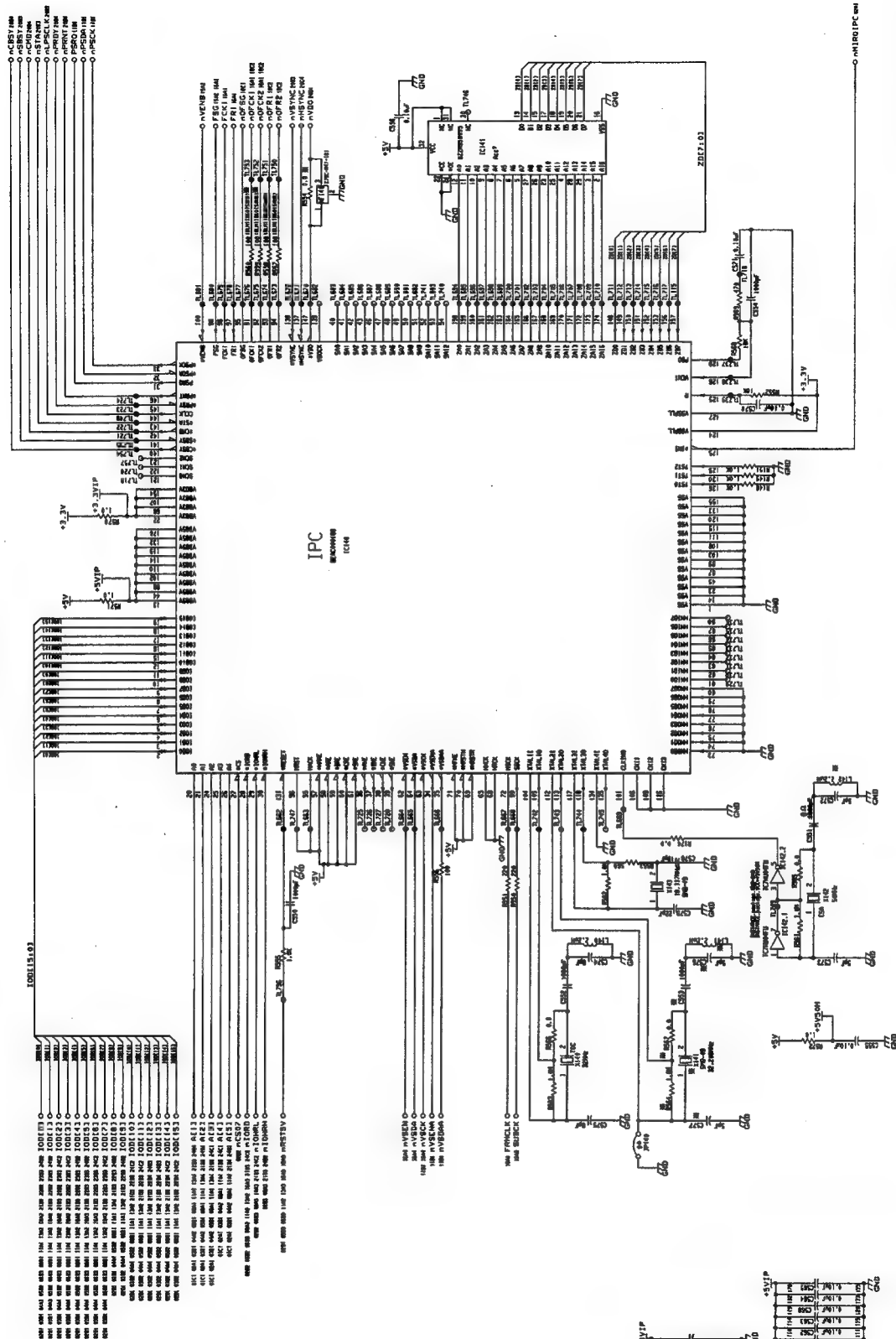
Model	Drawing Name
UF-885	FCB PC Board (12/24) < DZEP000430 >



Model	UF-885	Drawing Name	FCB PC Board (13/24)
			< DZEP000430 >

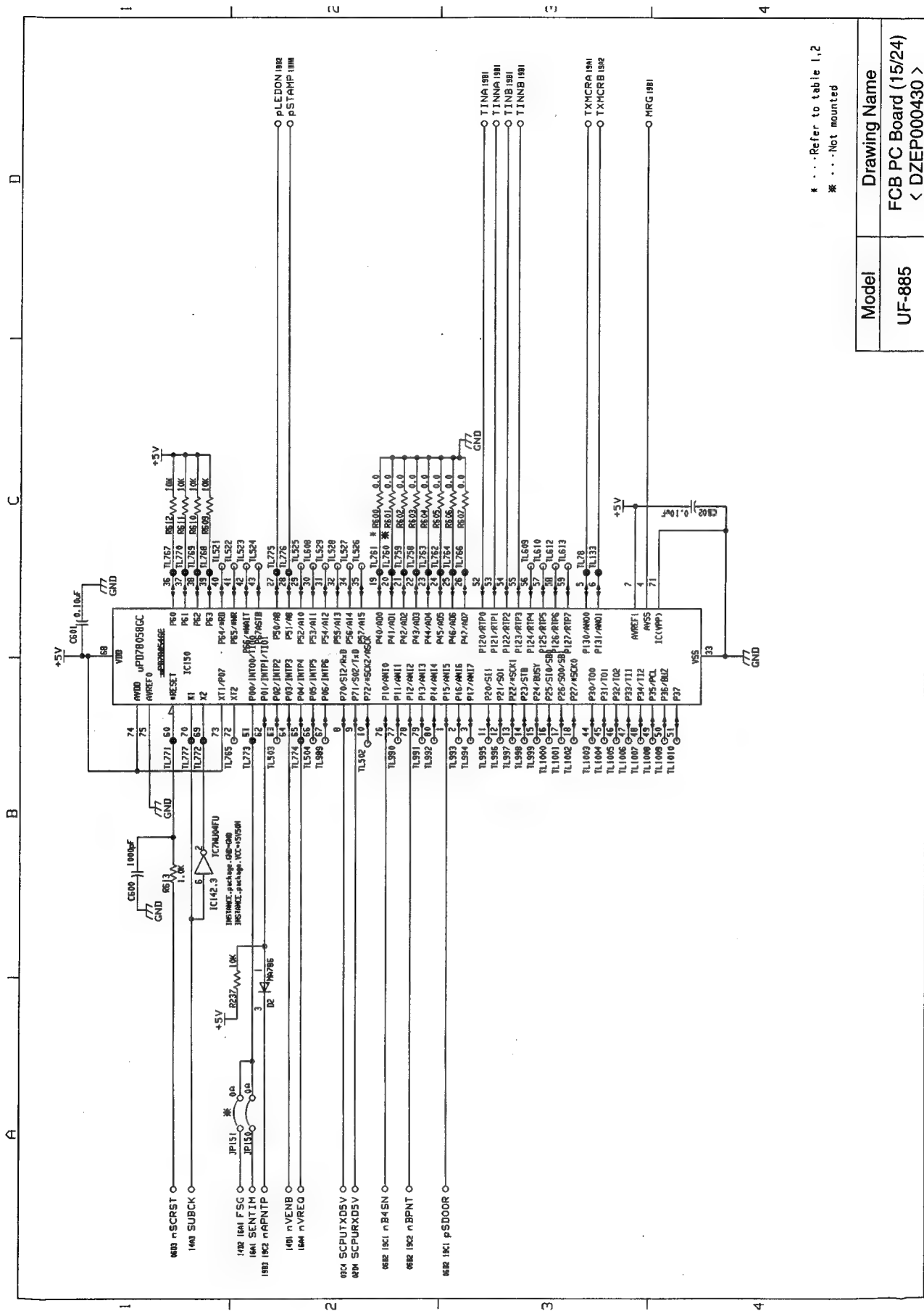
※ ...Not mounted

A B C D



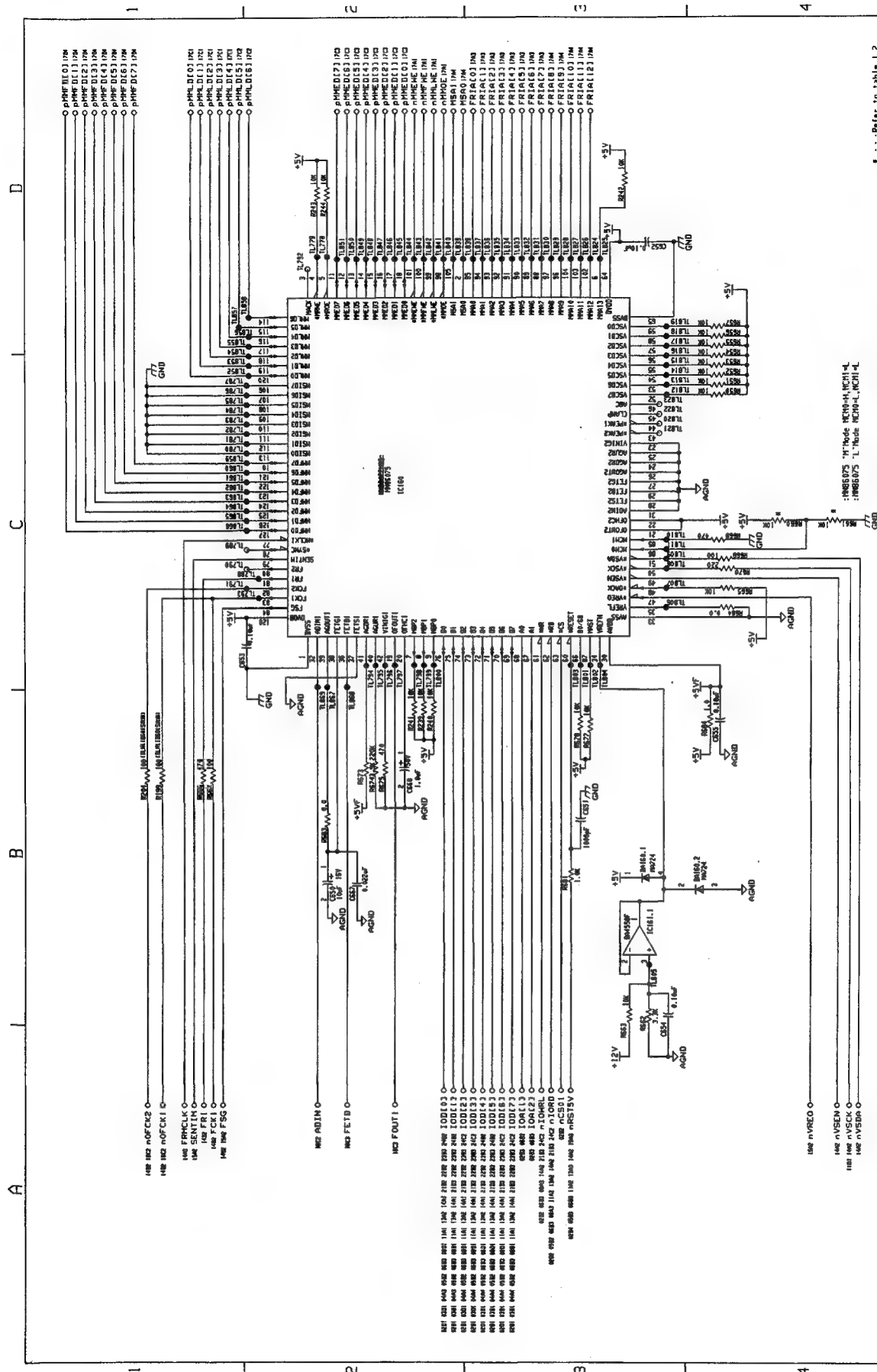
... Not wanted

Model	Drawing Name
UF-885	FCB PC Board (14/24)
	< DZEP000430 >



\* ... Refer to table 1,2  
\* ... Not mounted

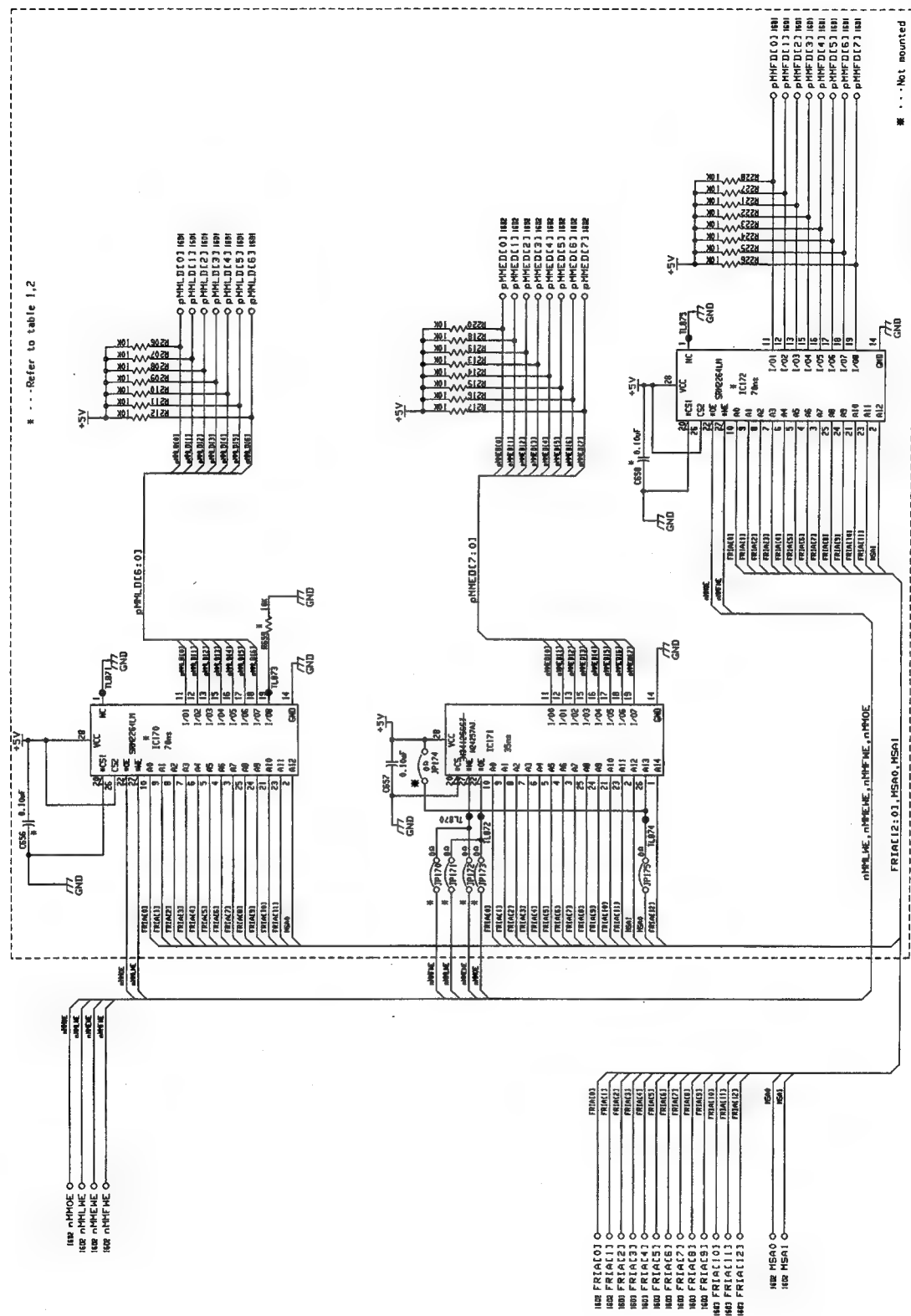
Model	Drawing Name
UF-885	FCB PC Board (15/24) < DZEP000430 >



... Refer to table 1.2  
... Not mounted

Model	Drawing Name
UF-885	FCB PC Board (16/24) < DZEP000430 >

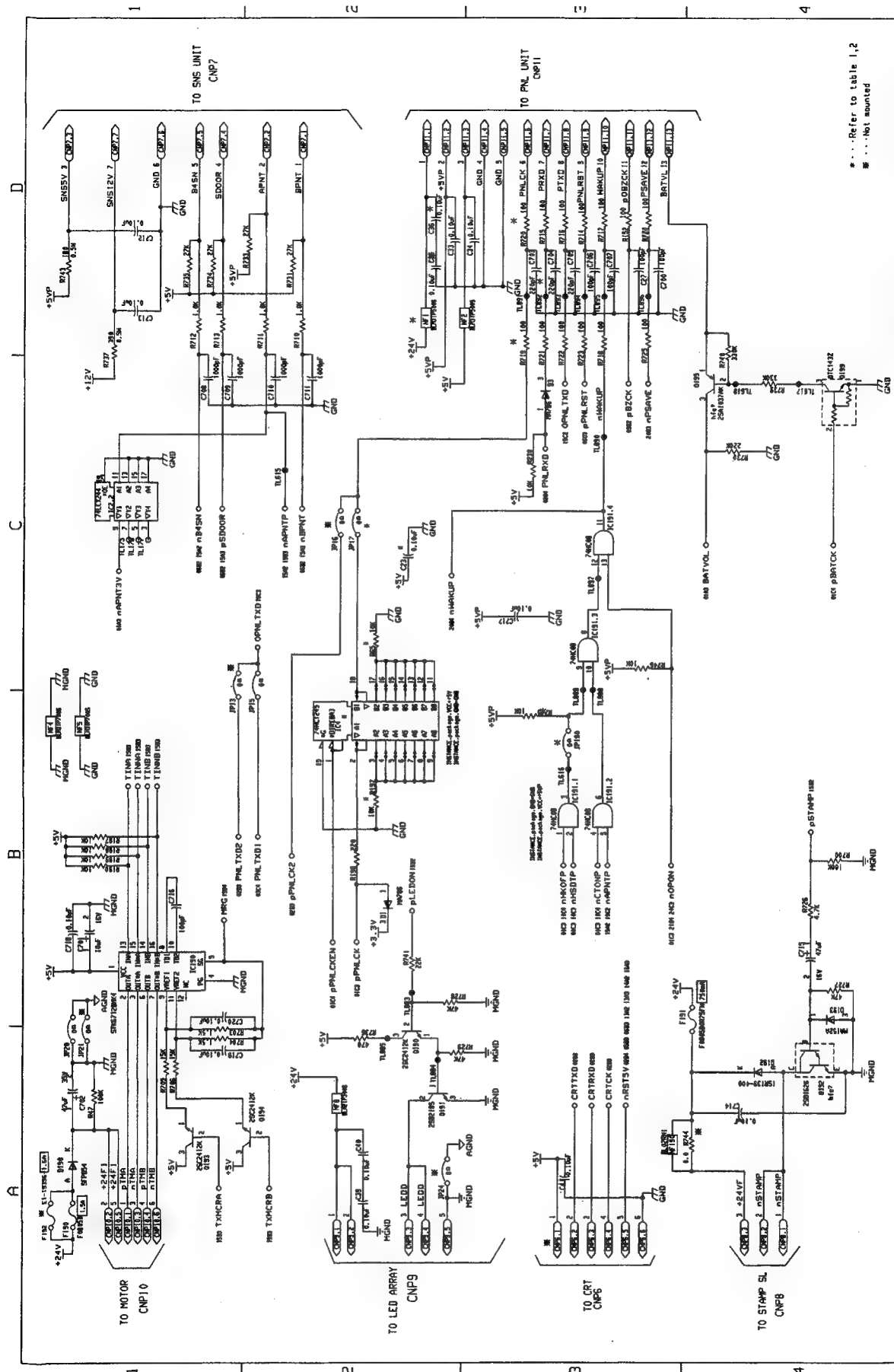
A B C D



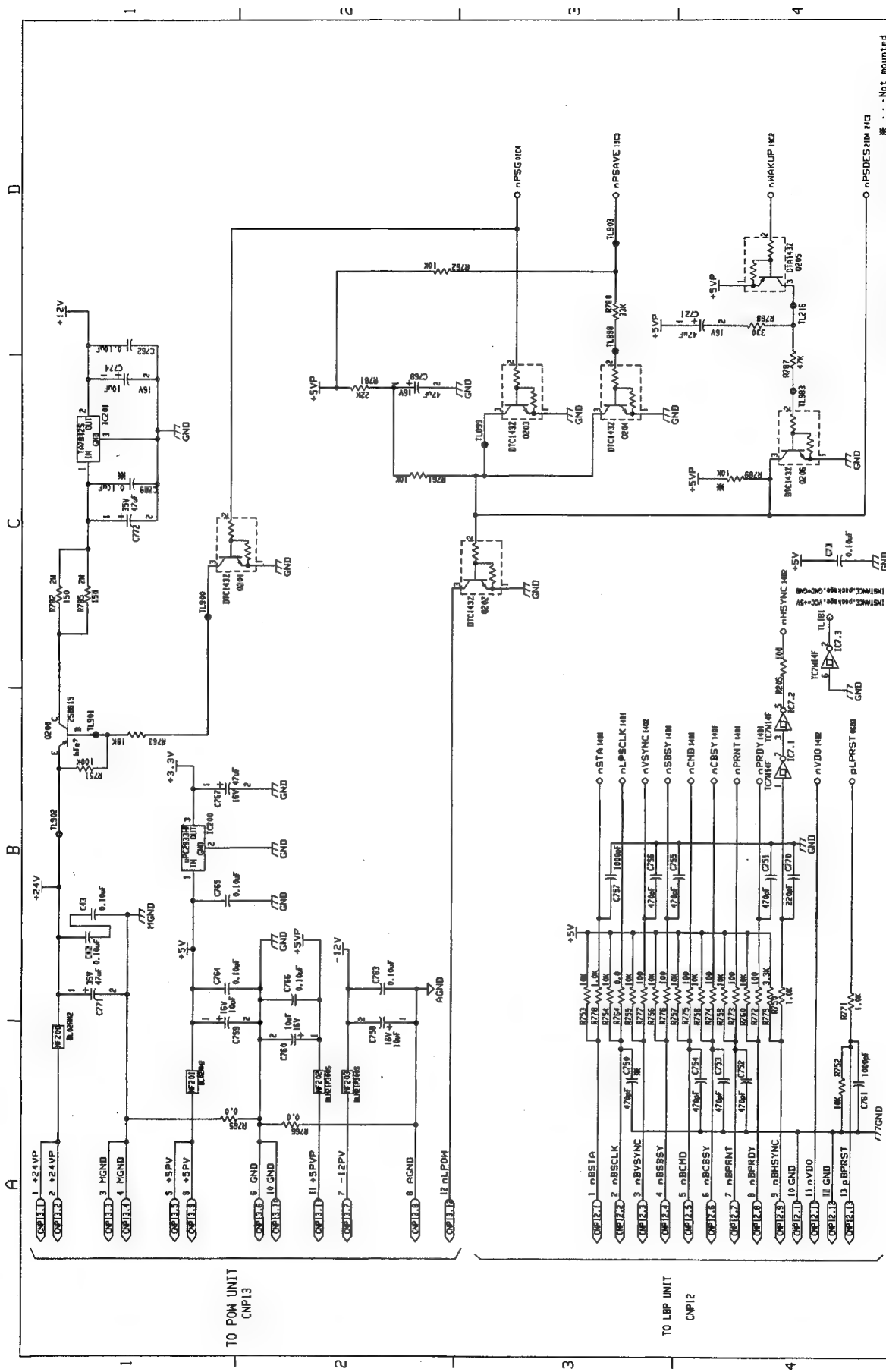
Model	Drawing Name
UF-885	FCB PC Board (17/24)
	< DZEP000430 >







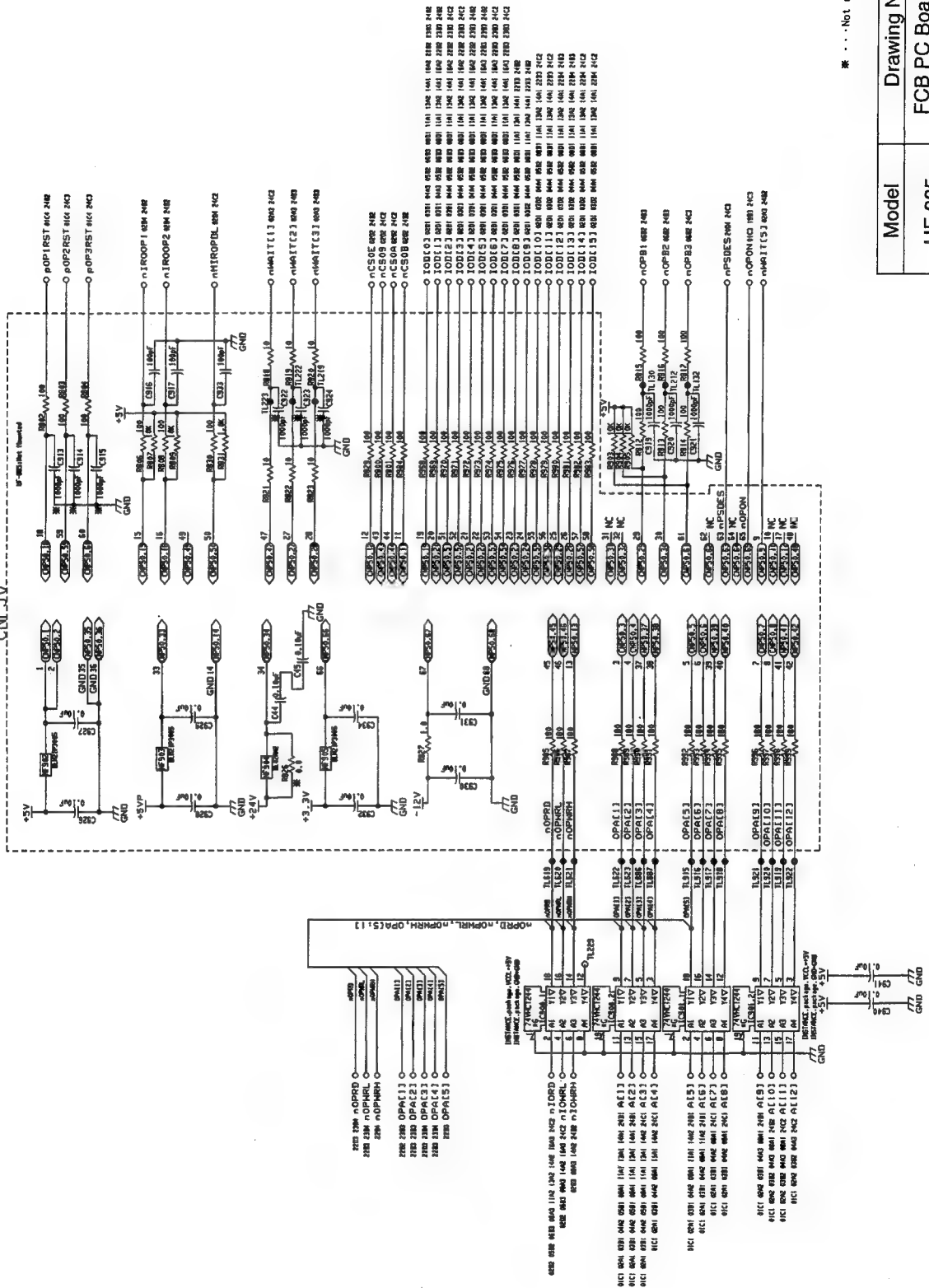
Model	Drawing Name
UF-885	FCB PC Board (19/24) < DZEP000430 >



Model	UF-885
Drawing Name	FCB PC Board (20/24) < DZEP000430 >

A B C D

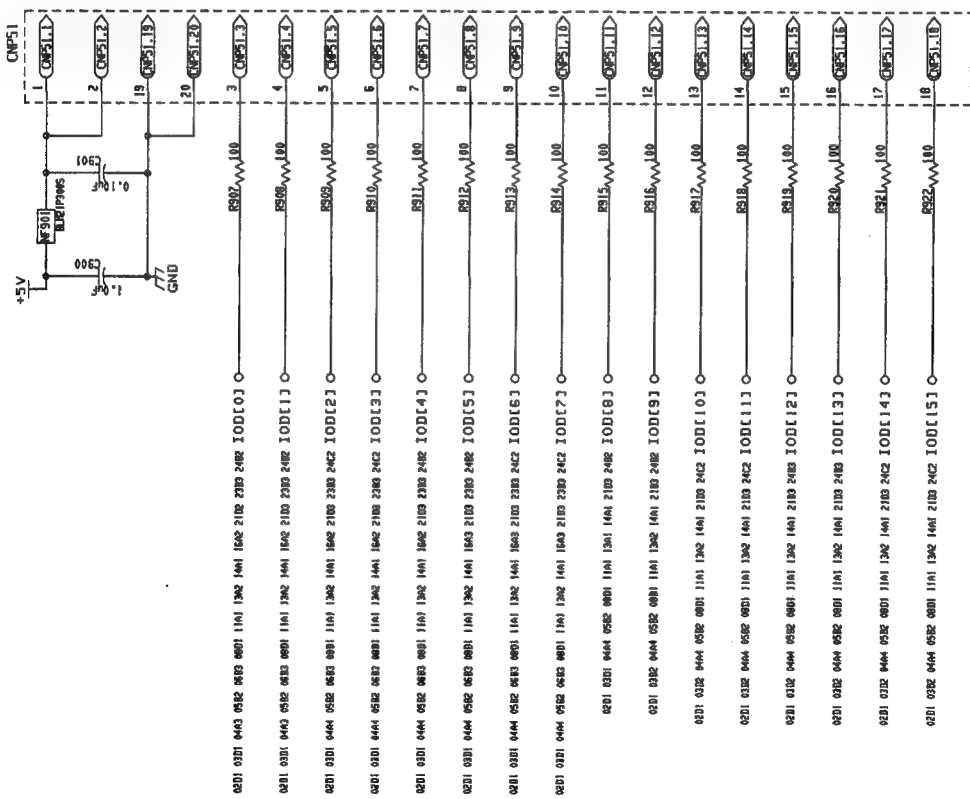
TO OPTION I/F UNIT  
G3,G4,I-NET  
CNP50



Model	Drawing Name
UF-885	FCB PC Board (21/24) < DZEP000430 >

A B C D

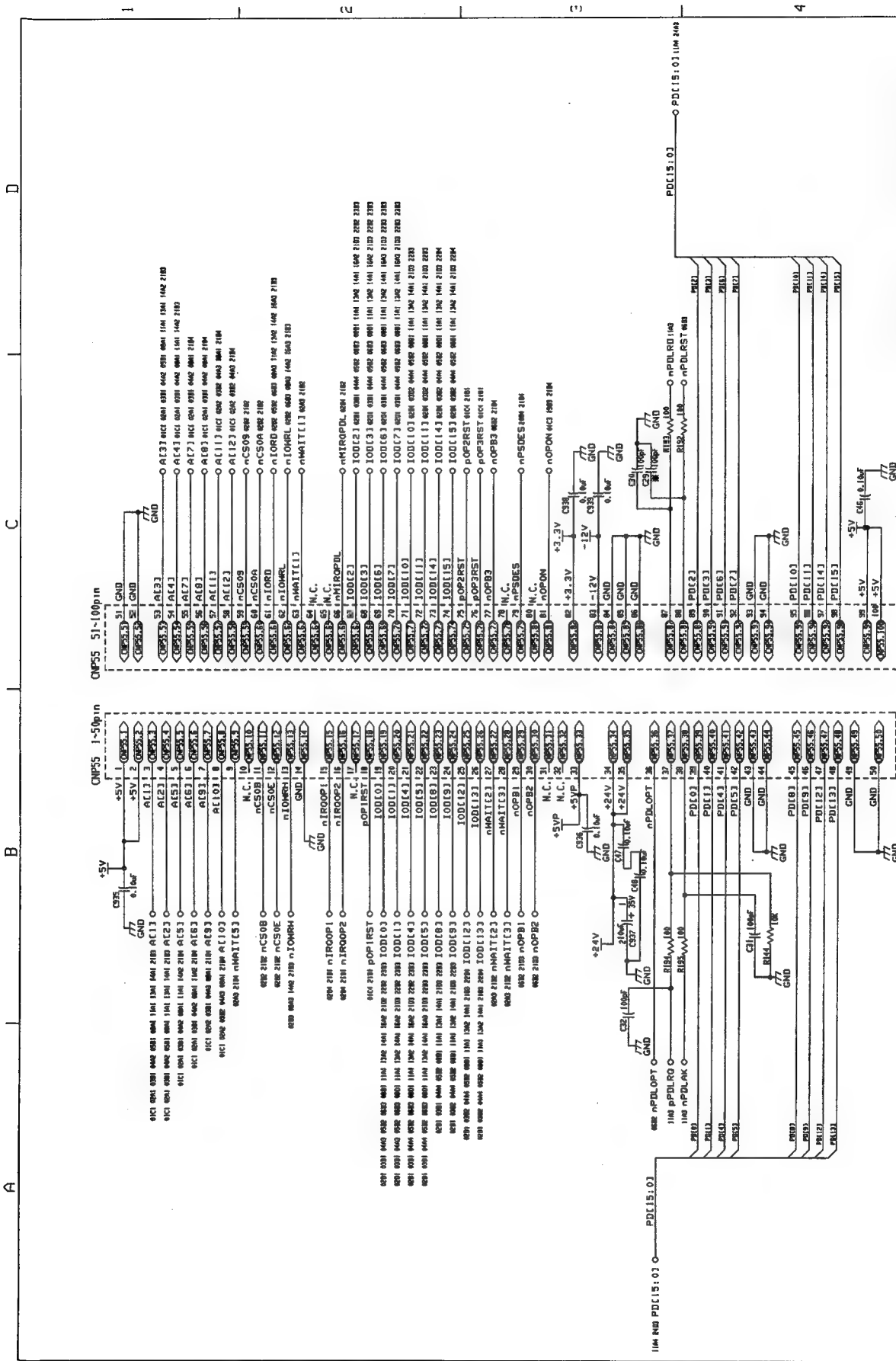
TO PR I/F Unit



\* ... Not mounted

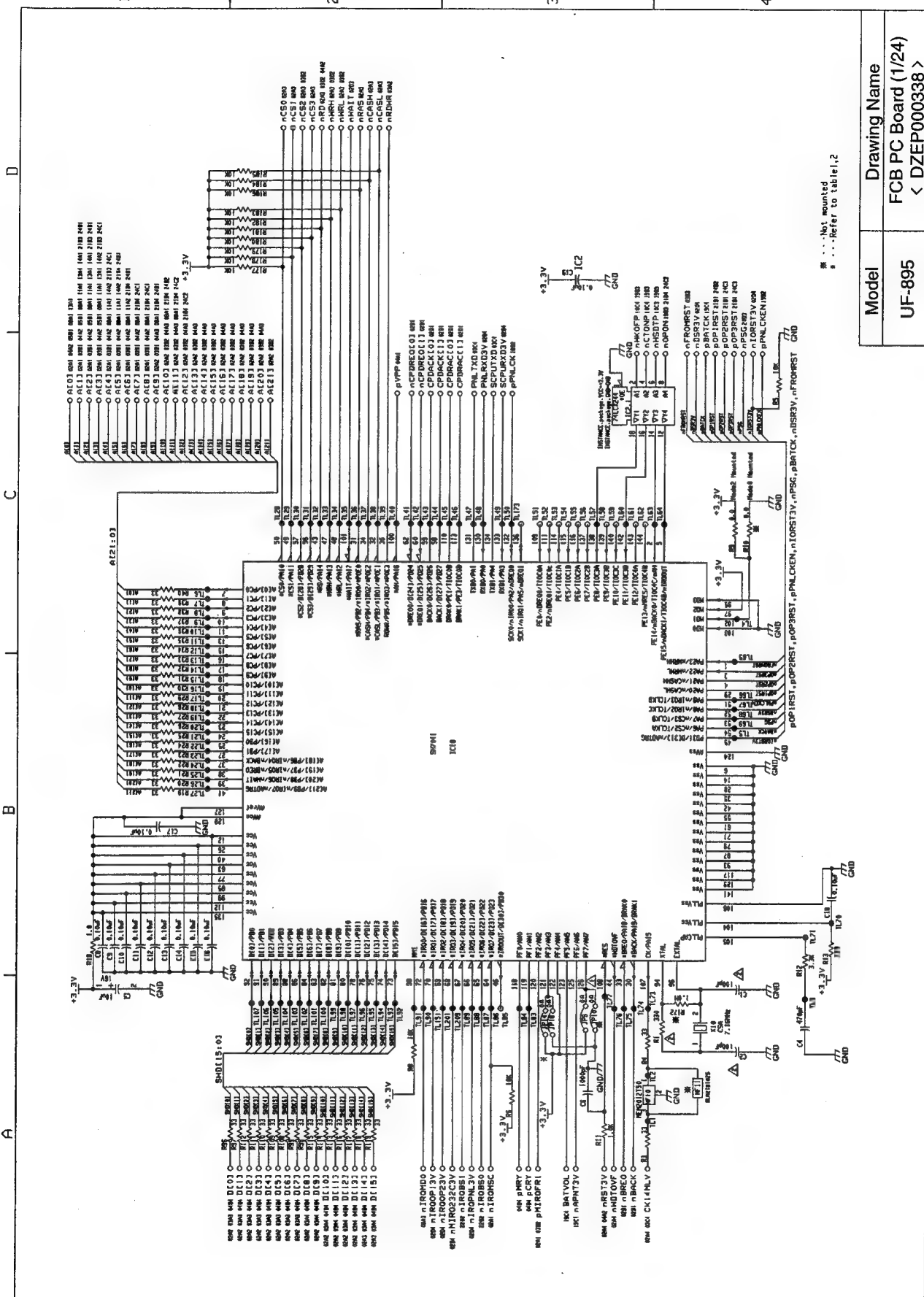
Model	Drawing Name
UF-885	FCB PC Board (22/24) < DZEP000430 >

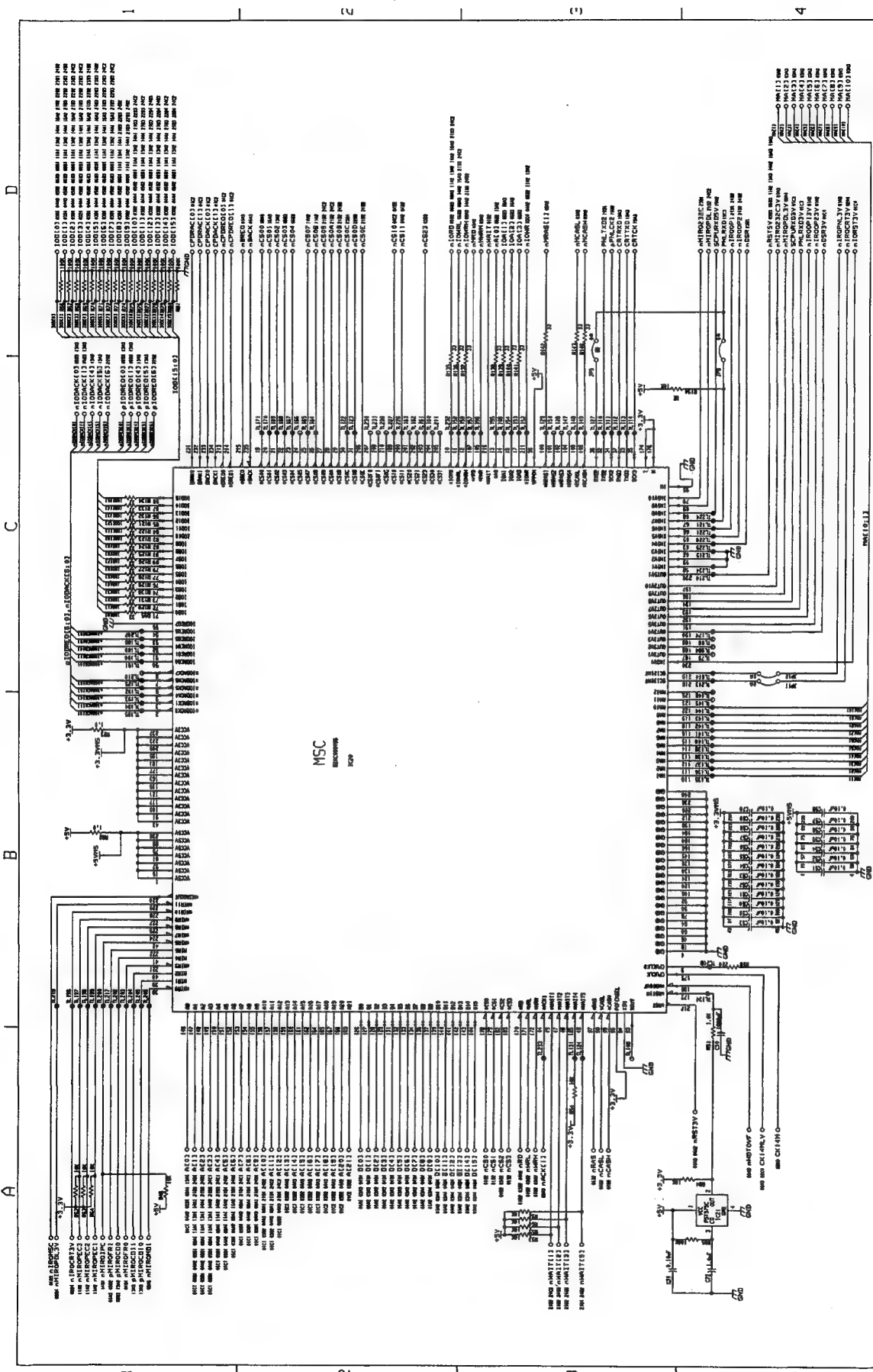




Model	Drawing Name
UF-885	FCB PC Board (24/24) < DZEP000430 >

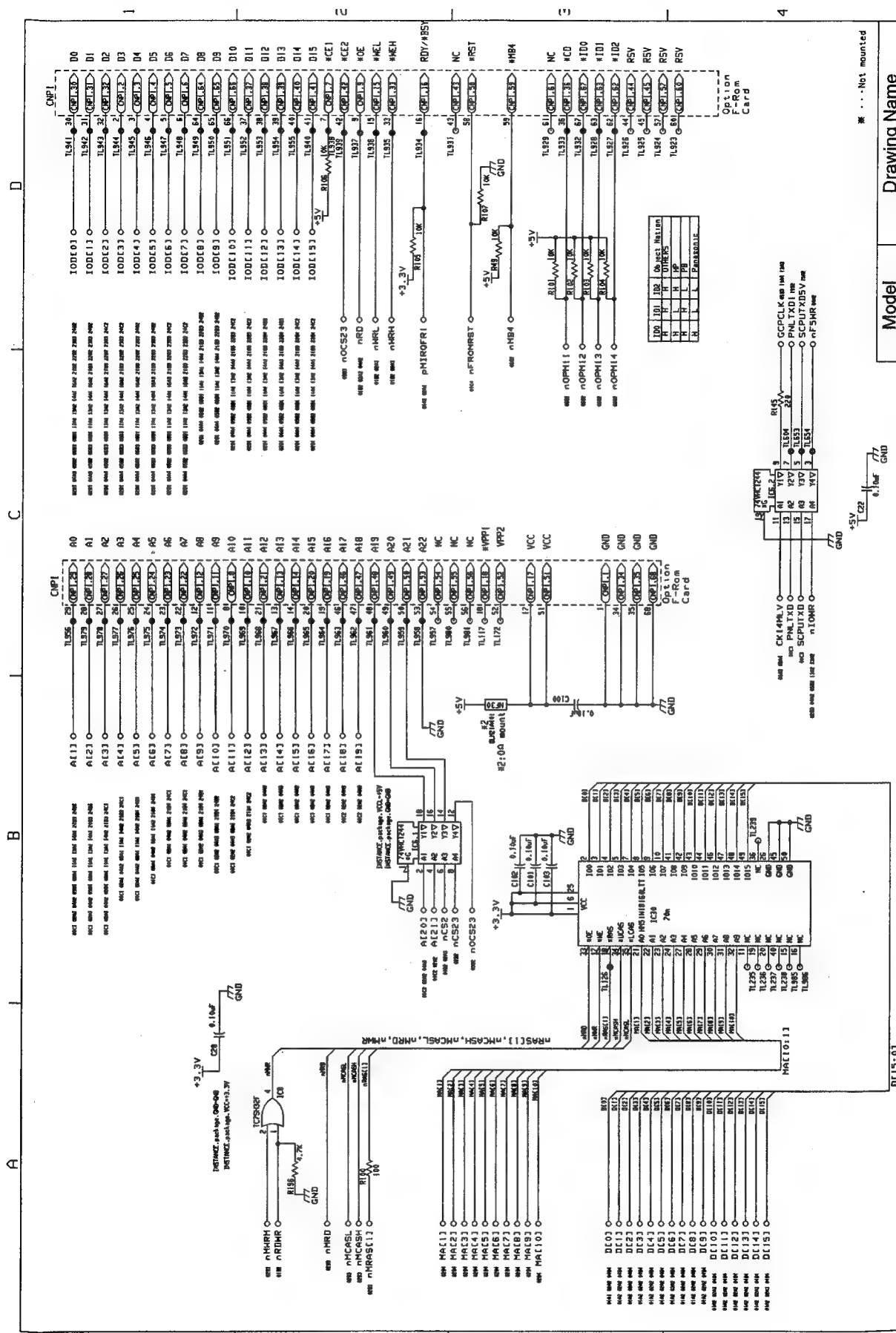
## 10.2 FCB PC Board (UF-895)





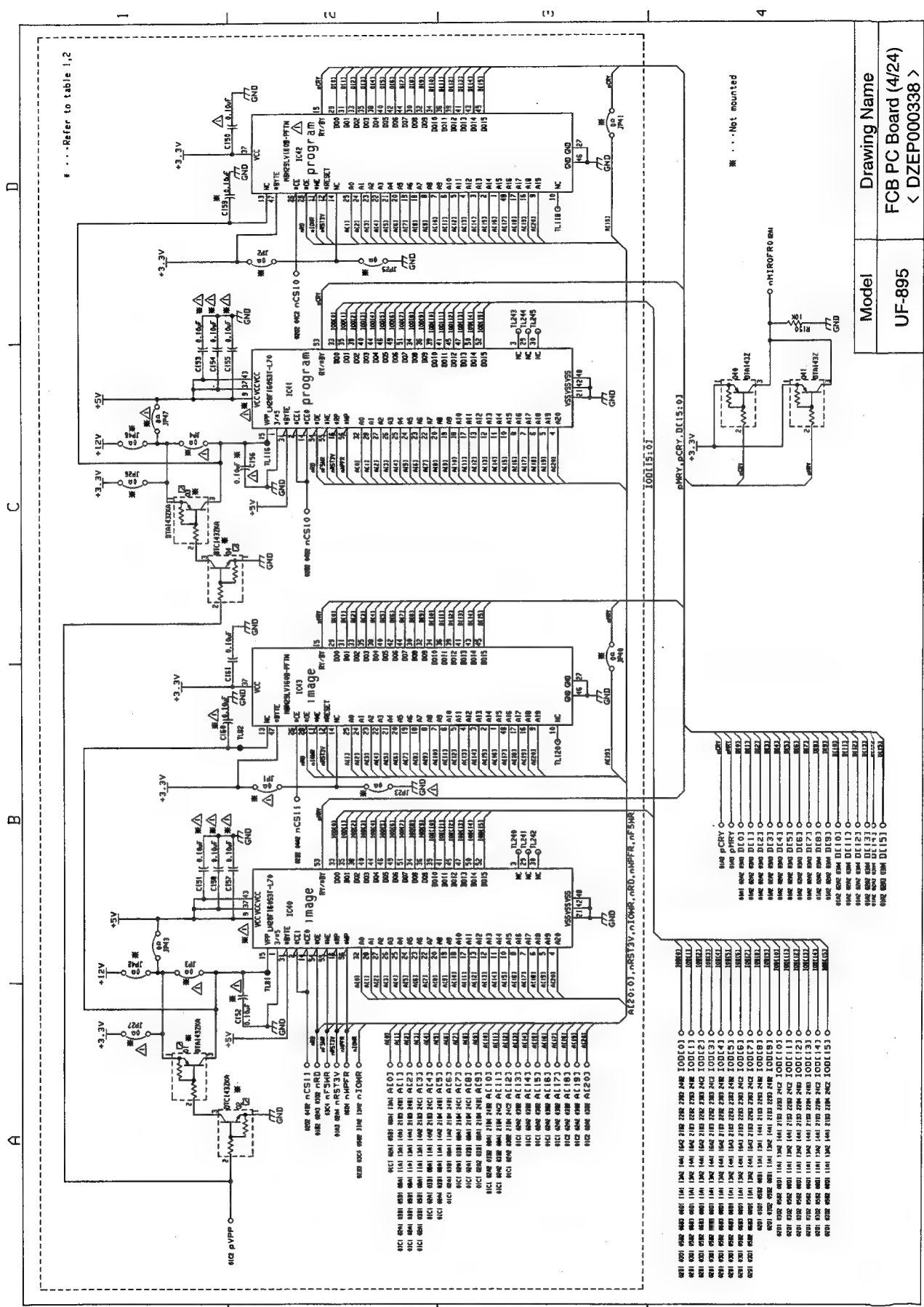
Model	Drawing Name
UF-895	FCB PC Board (2/24)
	< DZEP000338 >





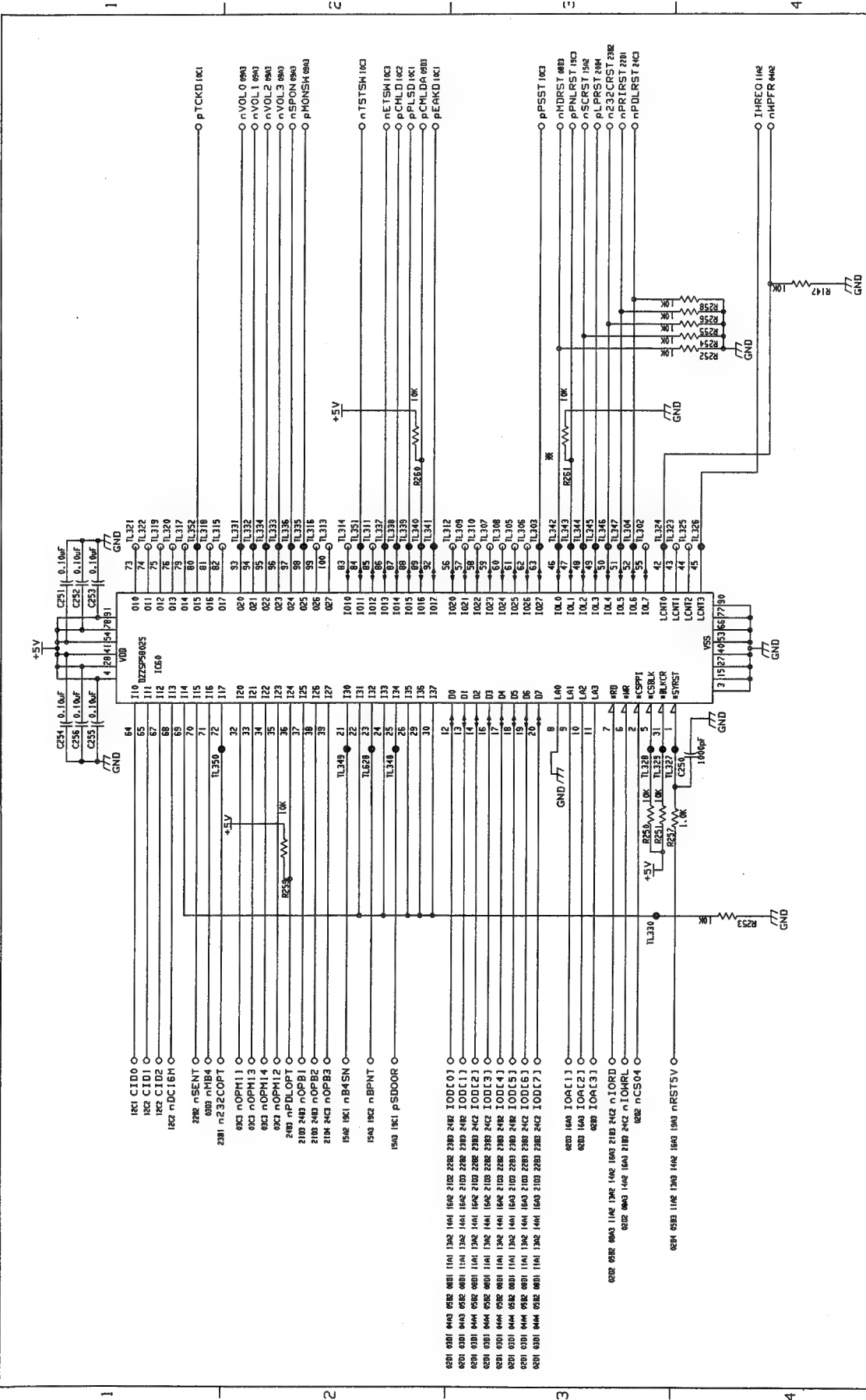
Model	Drawing Name
UF-895	FCB PC Board (3/24) < DZEP000338 >

※ ... Not mounted





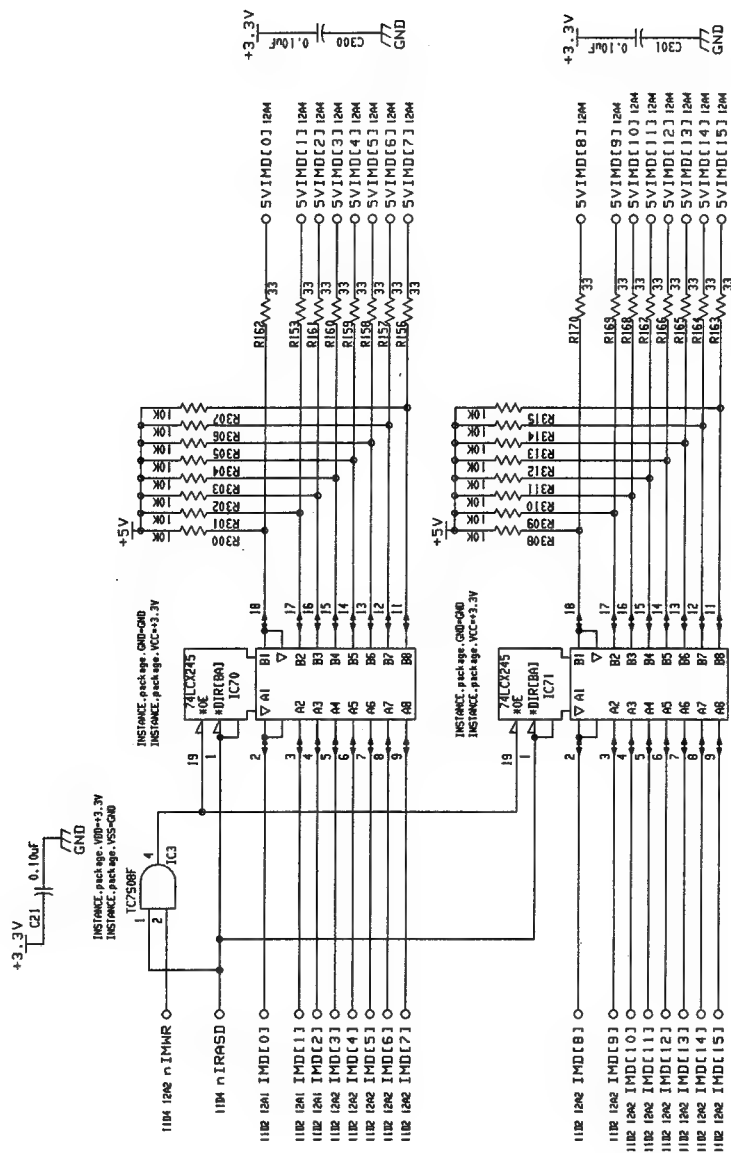
A B C D



\* ... Not mounted

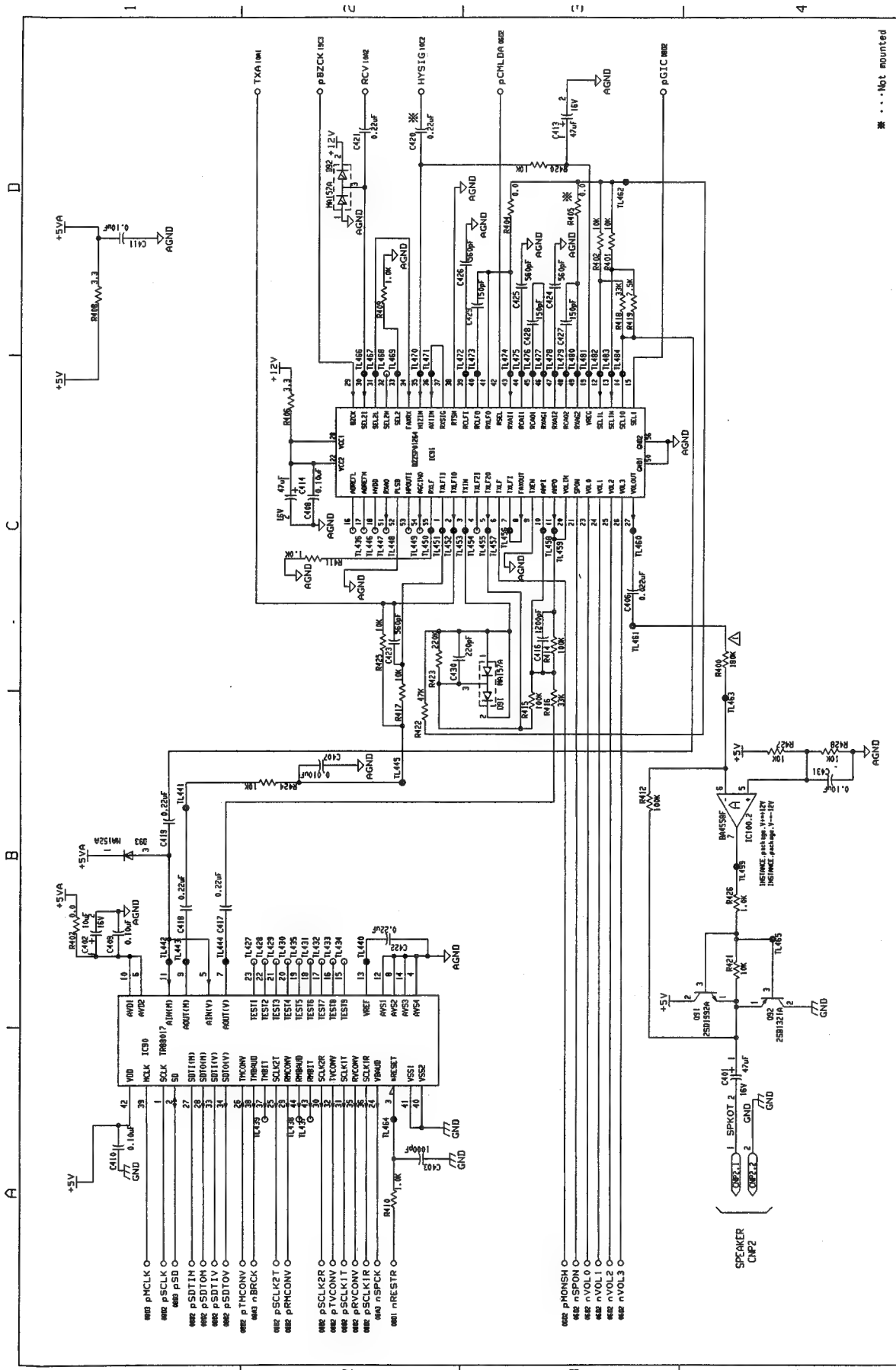
Model	Drawing Name
UF-895	FCB PC Board (6/24)
	< DZEP000338 >

A B C D



Model	Drawing Name
UF-895	FCB PC Board (7/24) < DZEP000338 >

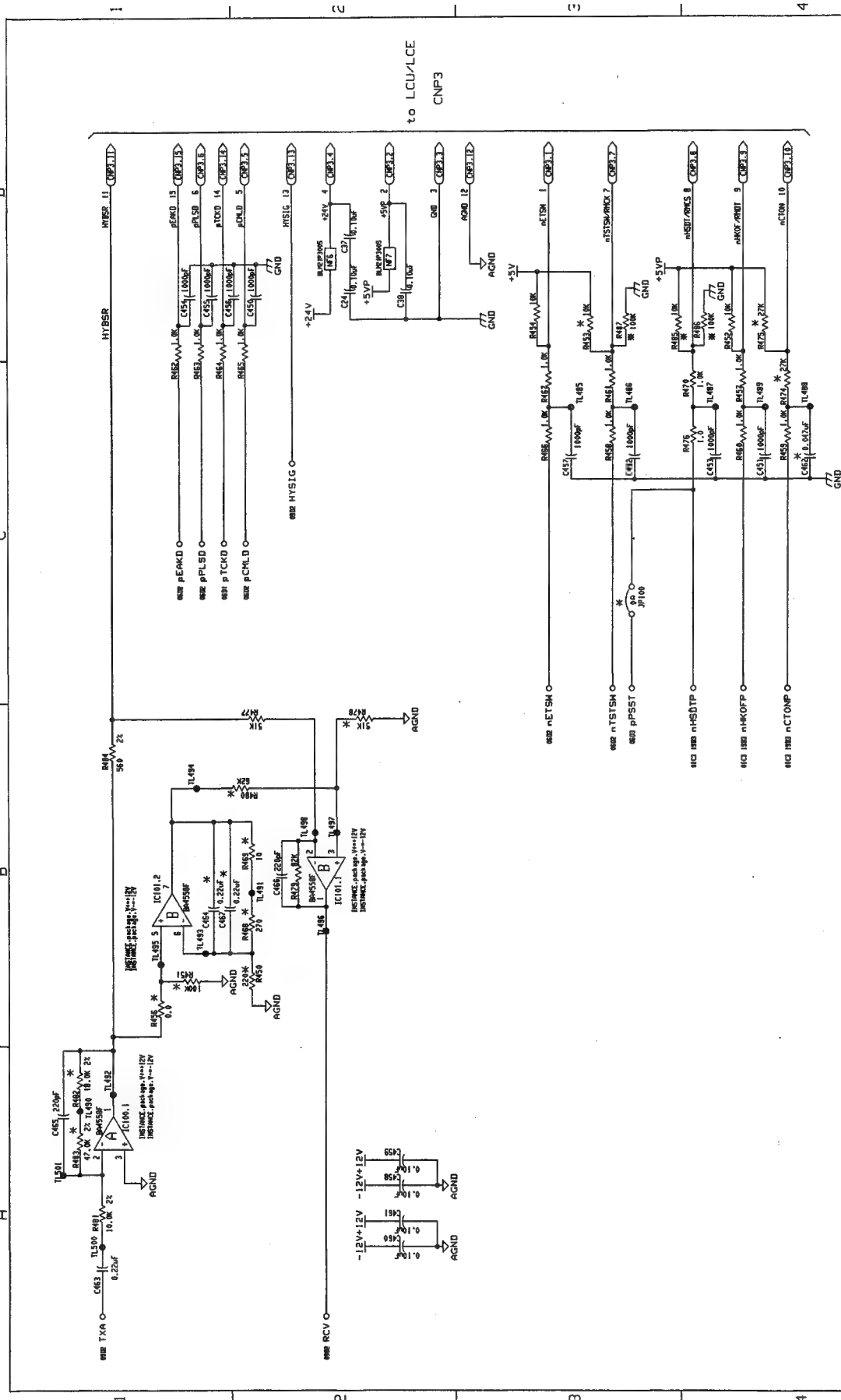




Model	Drawing Name
UF-895	FCB PC Board (9/24) < DZEP000338 >

※ ... Not mounted

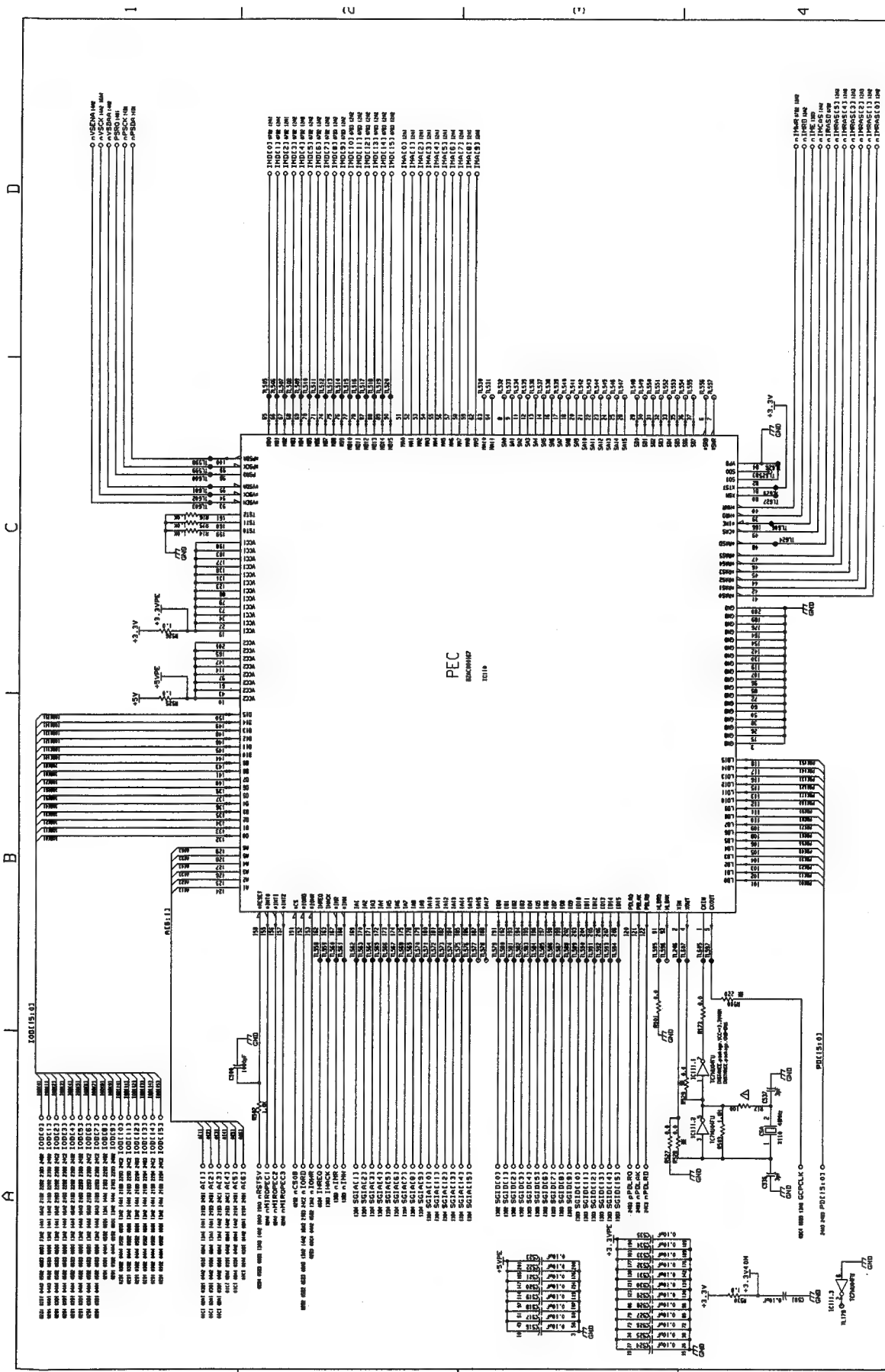
A B C D



...Refer to table 1,2  
...Not Mounted

Model	Drawing Name
UF-895	FCB PC Board (10/24)
	< DZEP000338 >

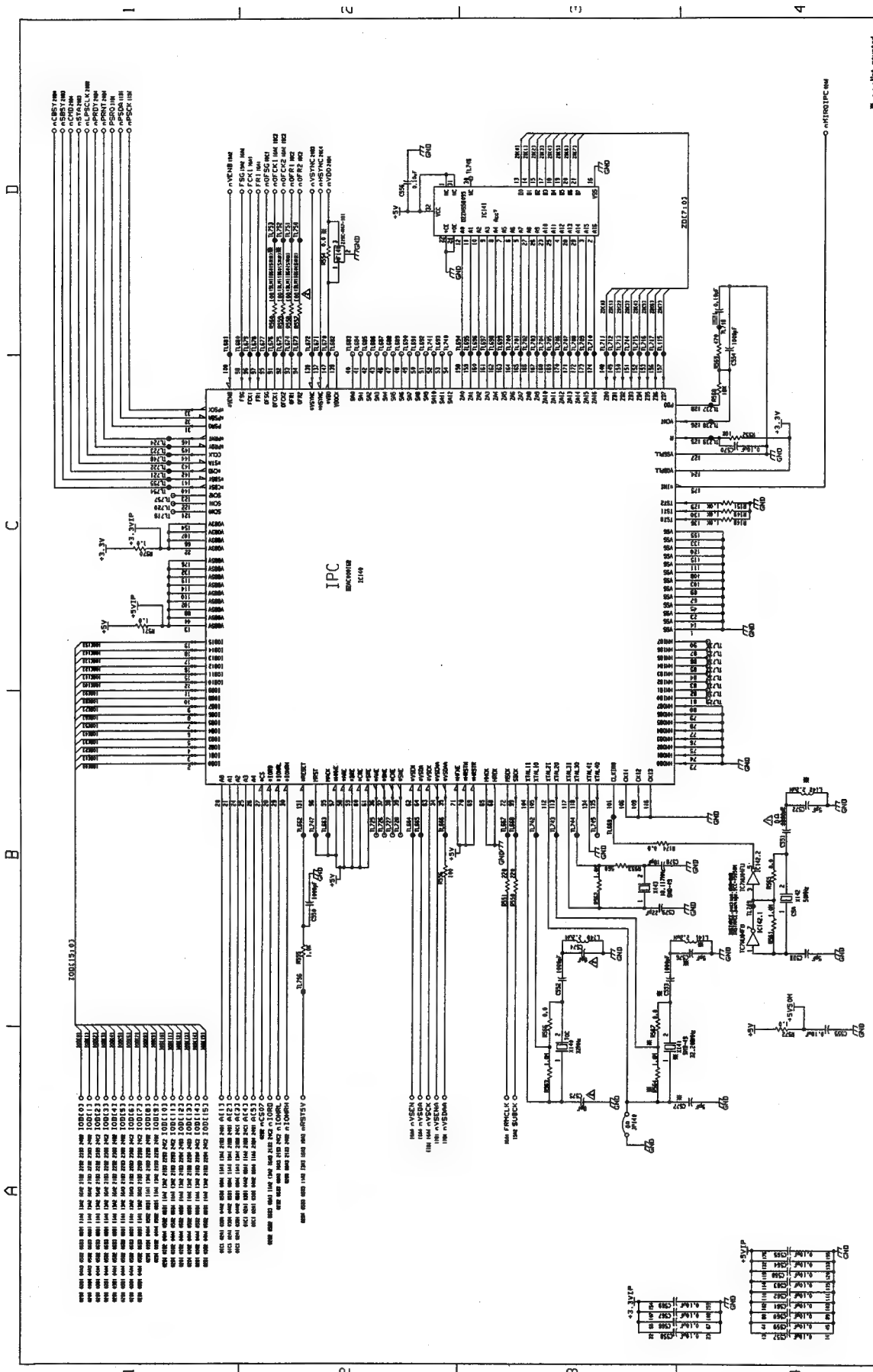




Model	Drawing Name
UF-895	FCB PC Board (11/24) < DZEP000338 >



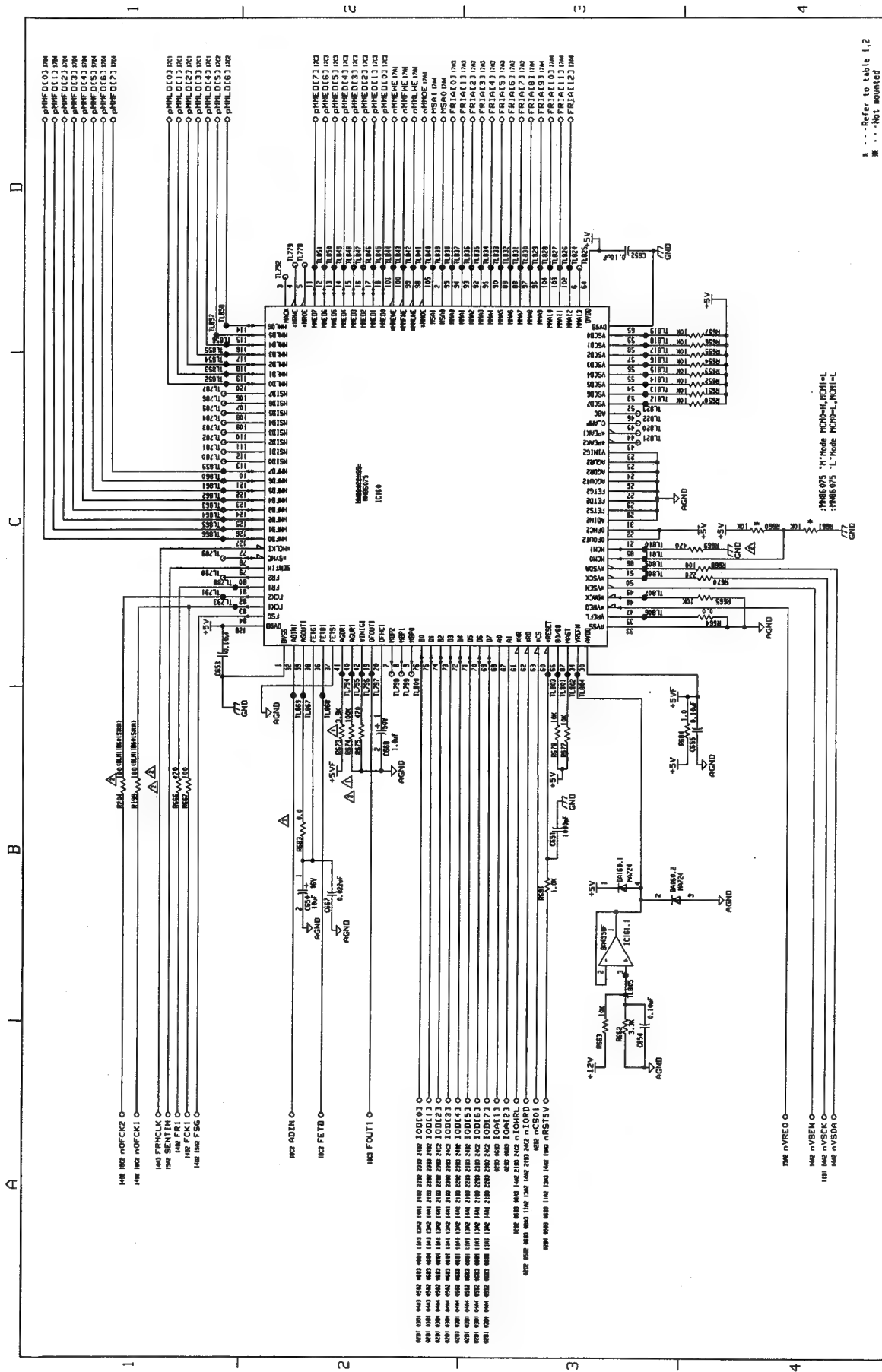




... Not mounted

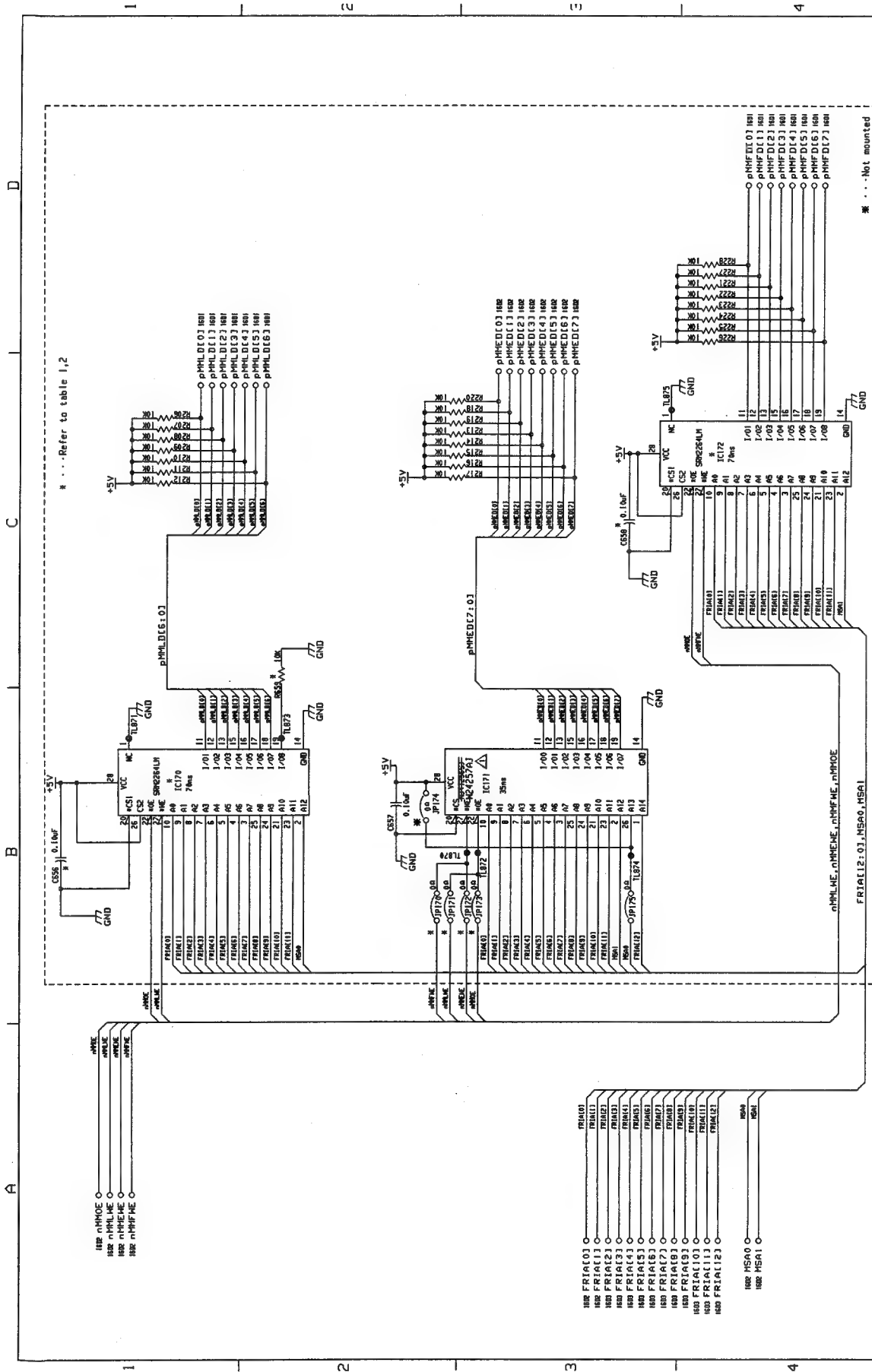
Model	Drawing Name
UF-895	FCB PC Board (14/24) < DZEP000338 >





Model	Drawing Name
UF-895	FCB PC Board (16/24) < DZEP000338 >

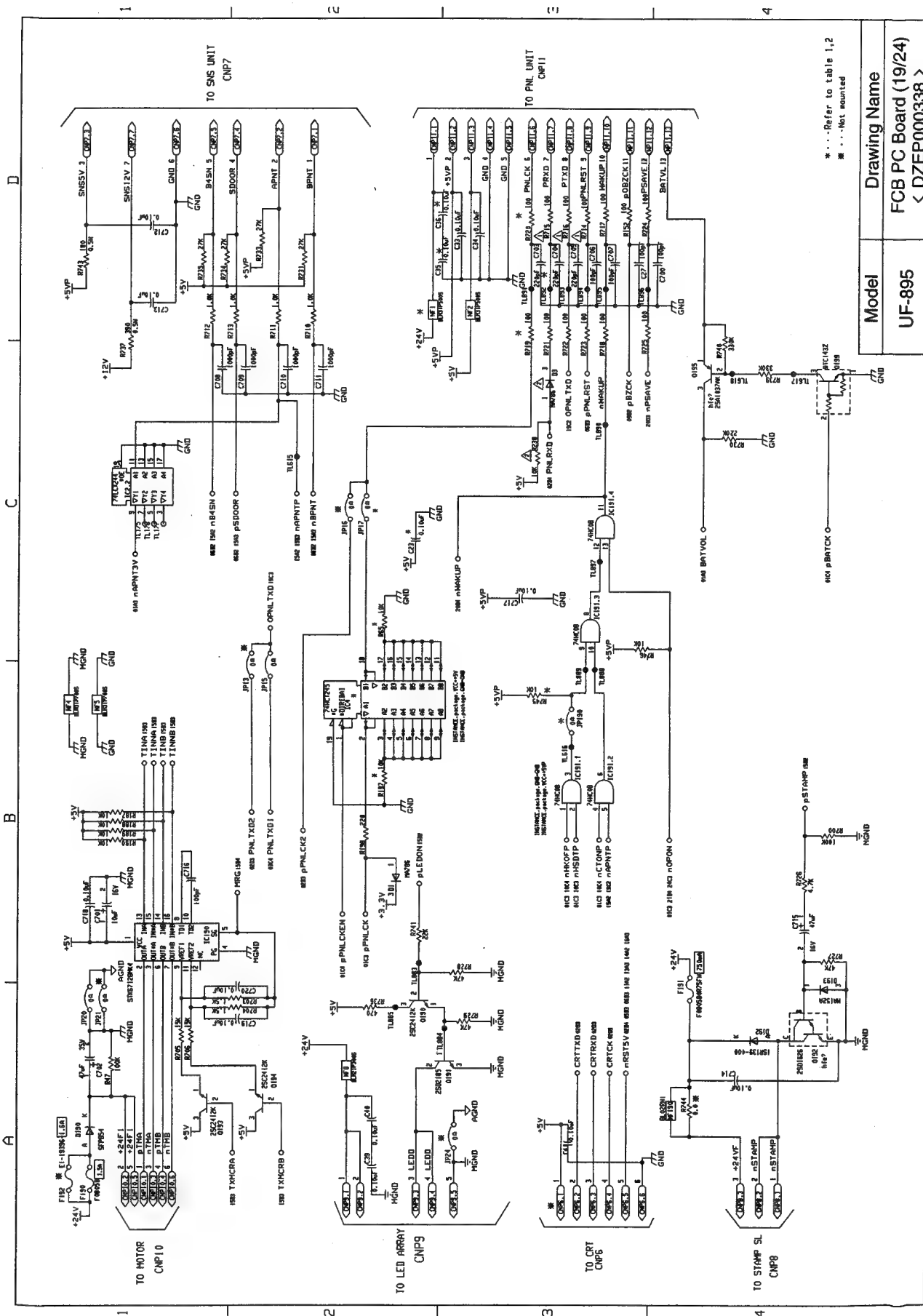
... Refer to table 1,2  
... Not mounted



Model	Drawing Name
UF-895	FCB PC Board (17/24)
	< DZEP000338 >

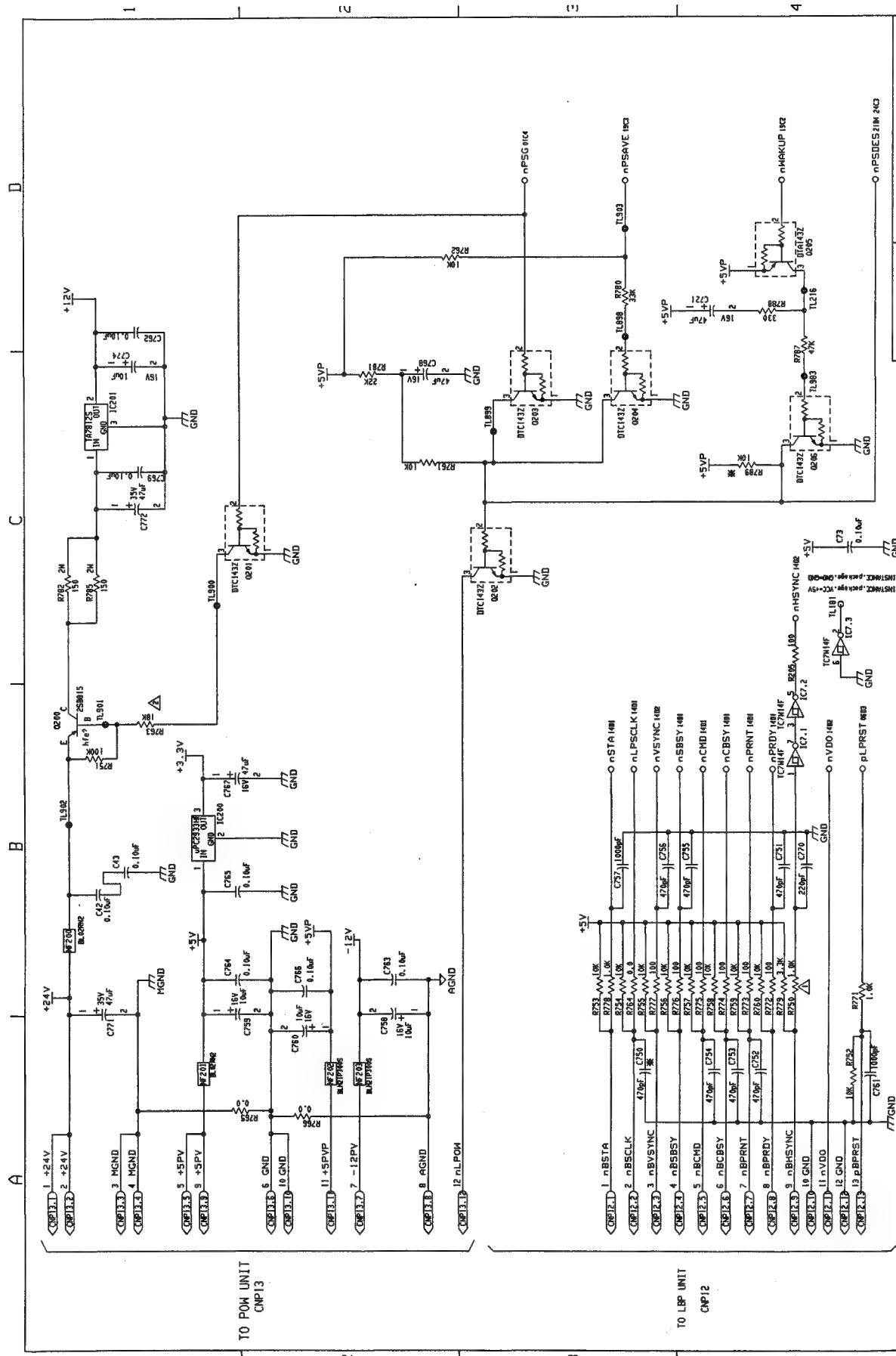






\* ... Refer to table 1,2  
 # ... Not mounted

Model	Drawing Name
UF-895	FCB PC Board (19/24) < DZEP000338 >



Model	UF-895	Drawing Name
		FCB PC Board (20/24)
		< DZEP000338 >

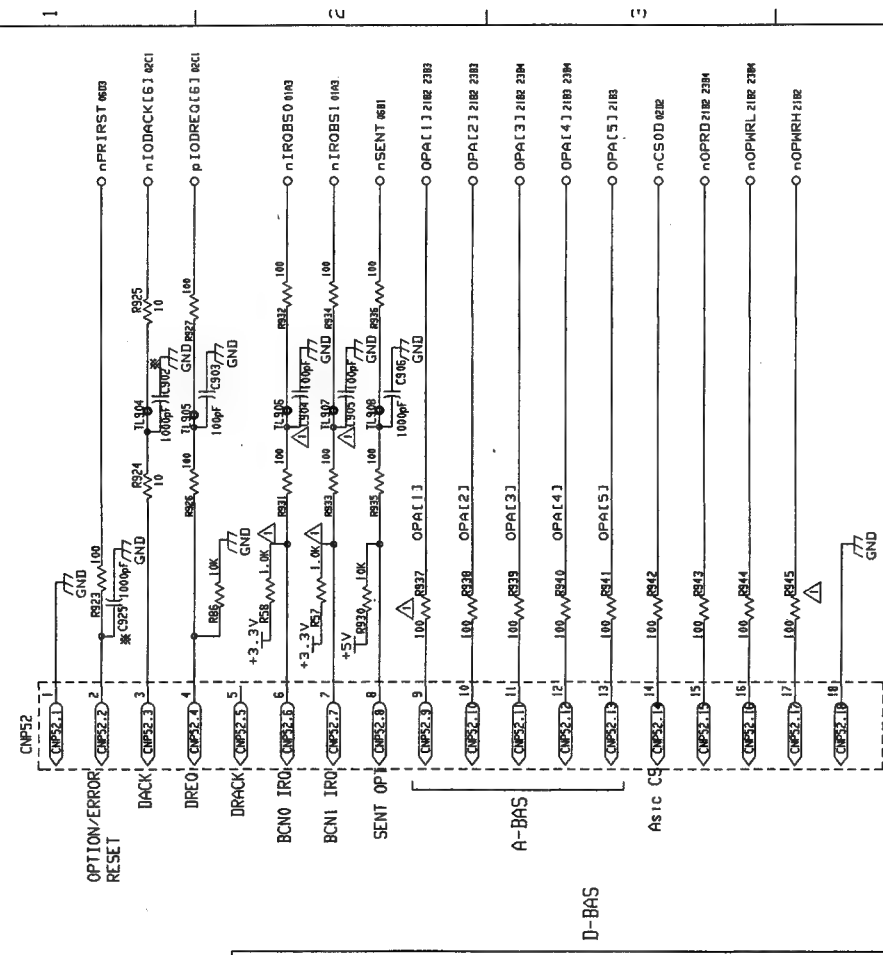
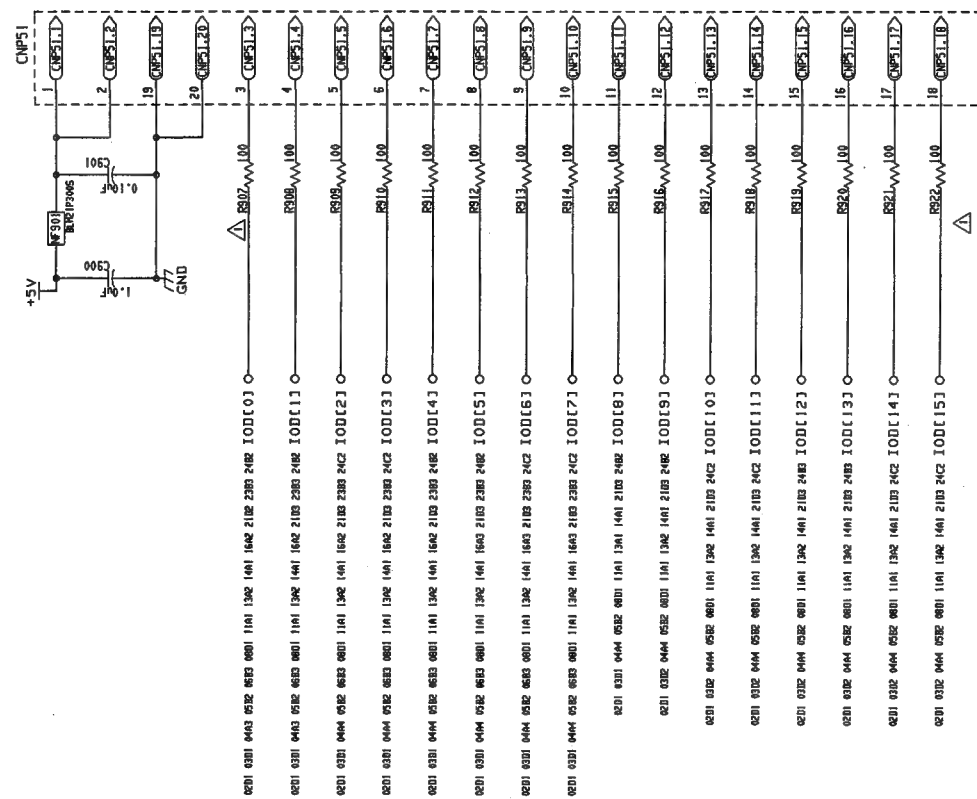
\* ... Not mounted

[illegible]

Model	Drawing Name
UF-895	FCB PC Board (21/24) < DZEP000338 >

A B C D

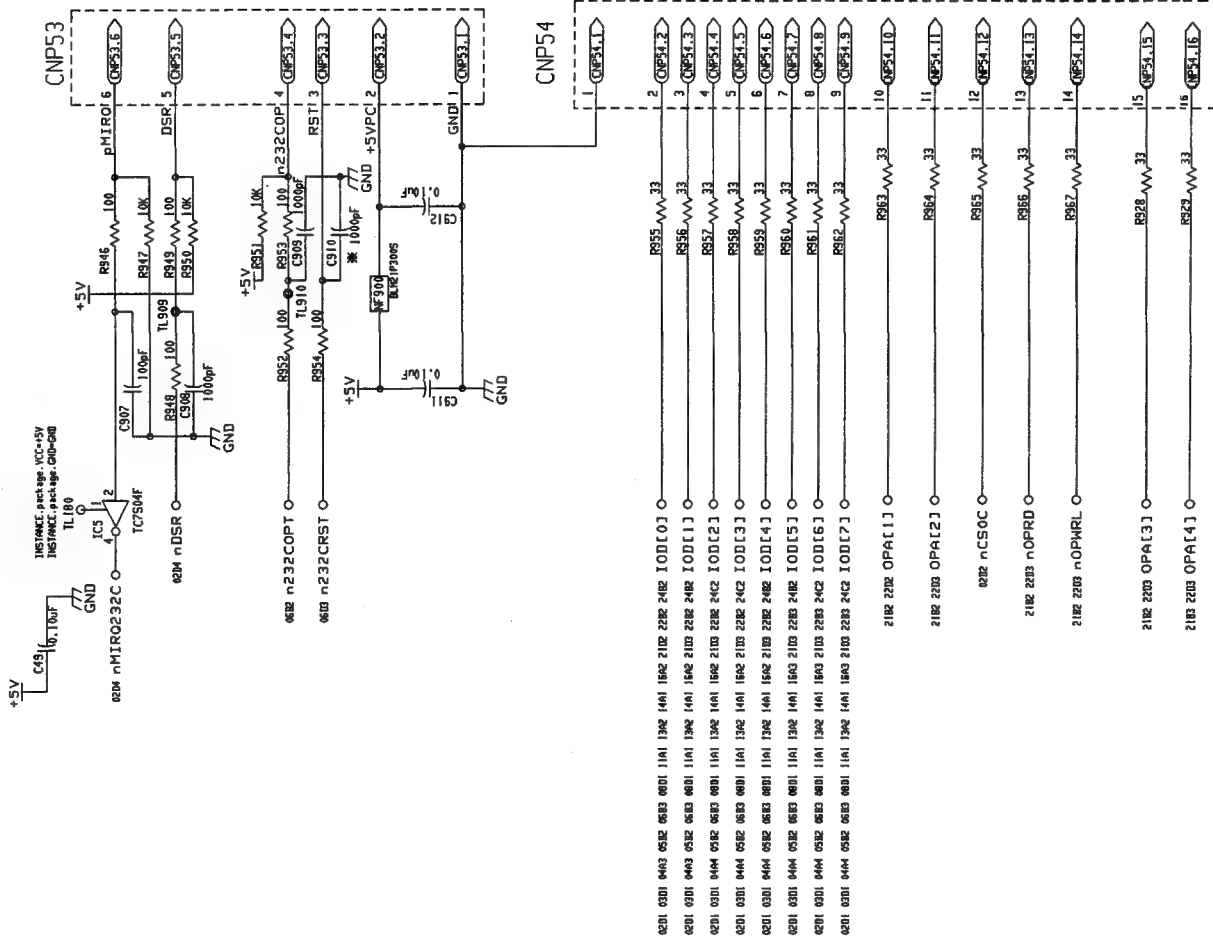
TO PR I/F Unit



※ ...Not mounted

Model	Drawing Name
UF-895	FCB PC Board (22/24) < DZEP000338 >

A B C D

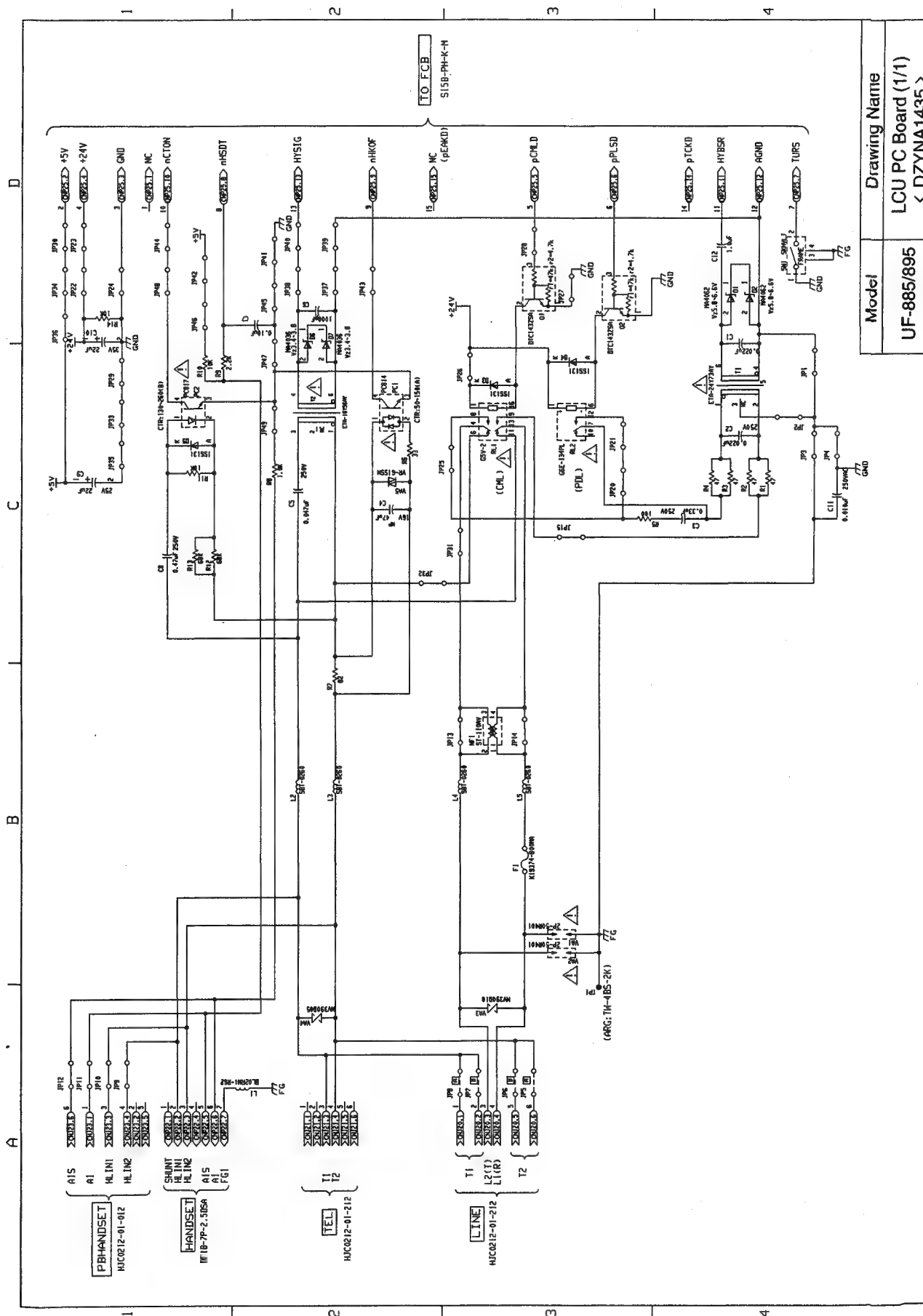


※ ...Not mounted

Model	Drawing Name
UF-895	FCB PC Board (23/24) < DZEP000338 >

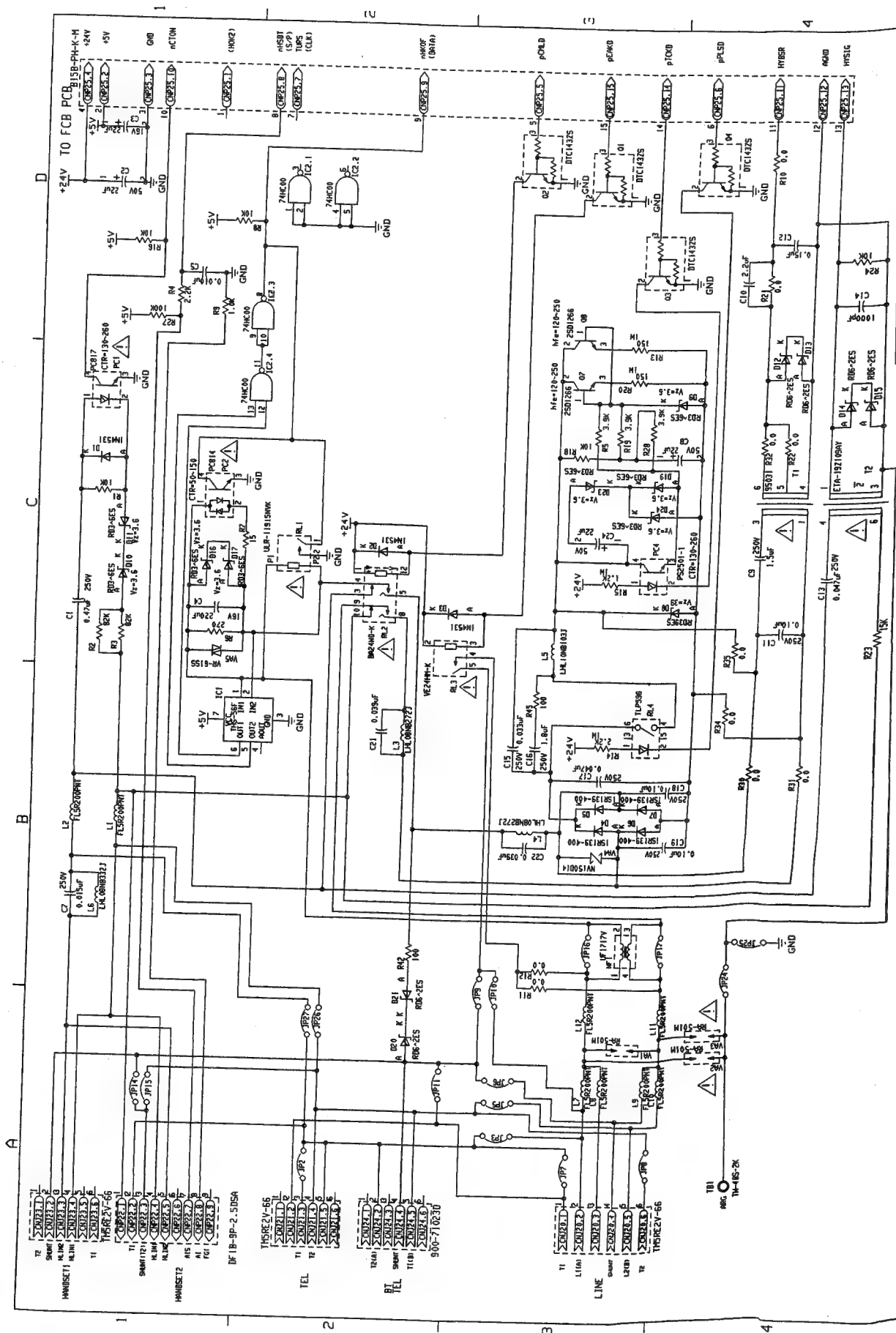


# 10.3 LCU PC Board



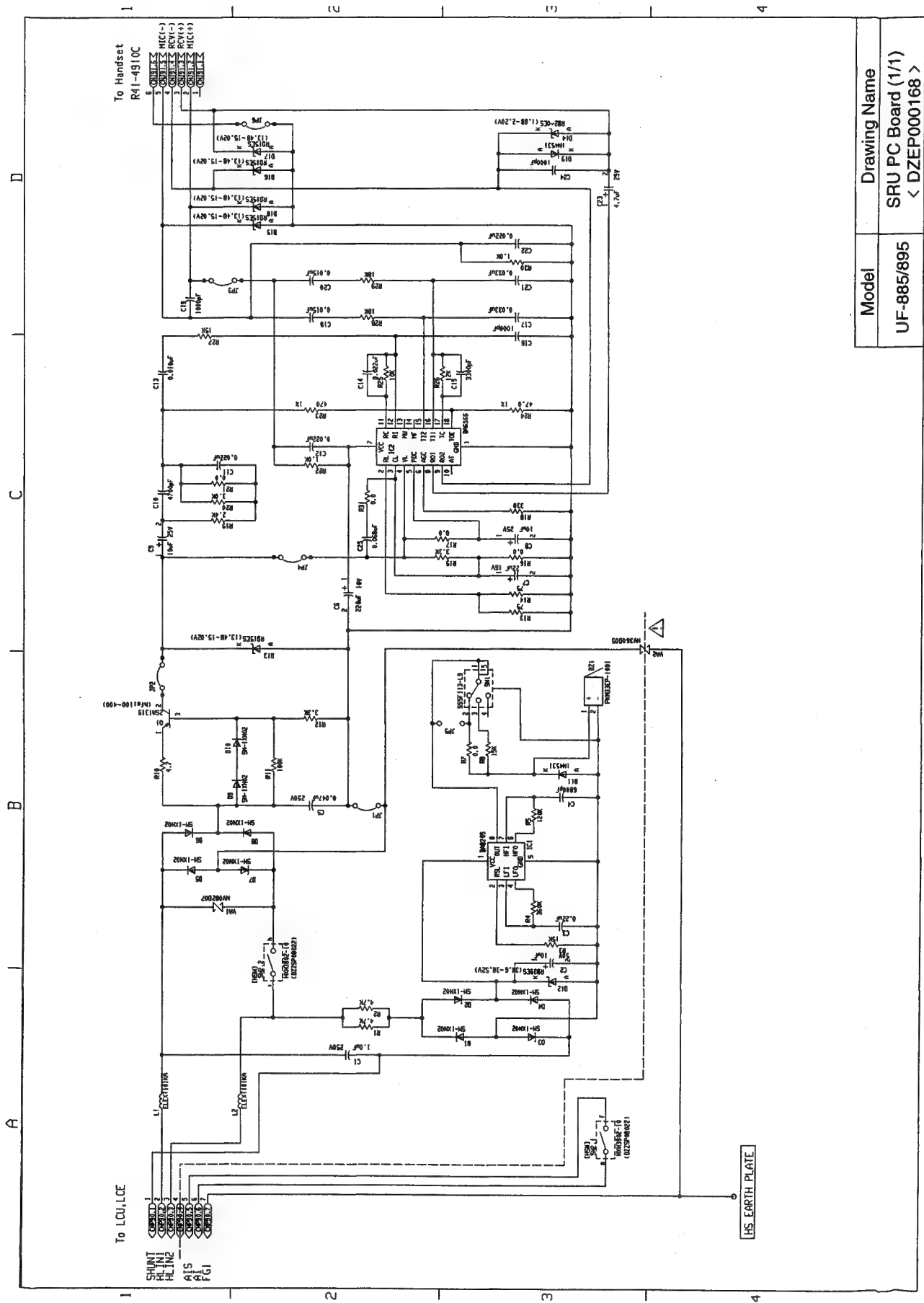






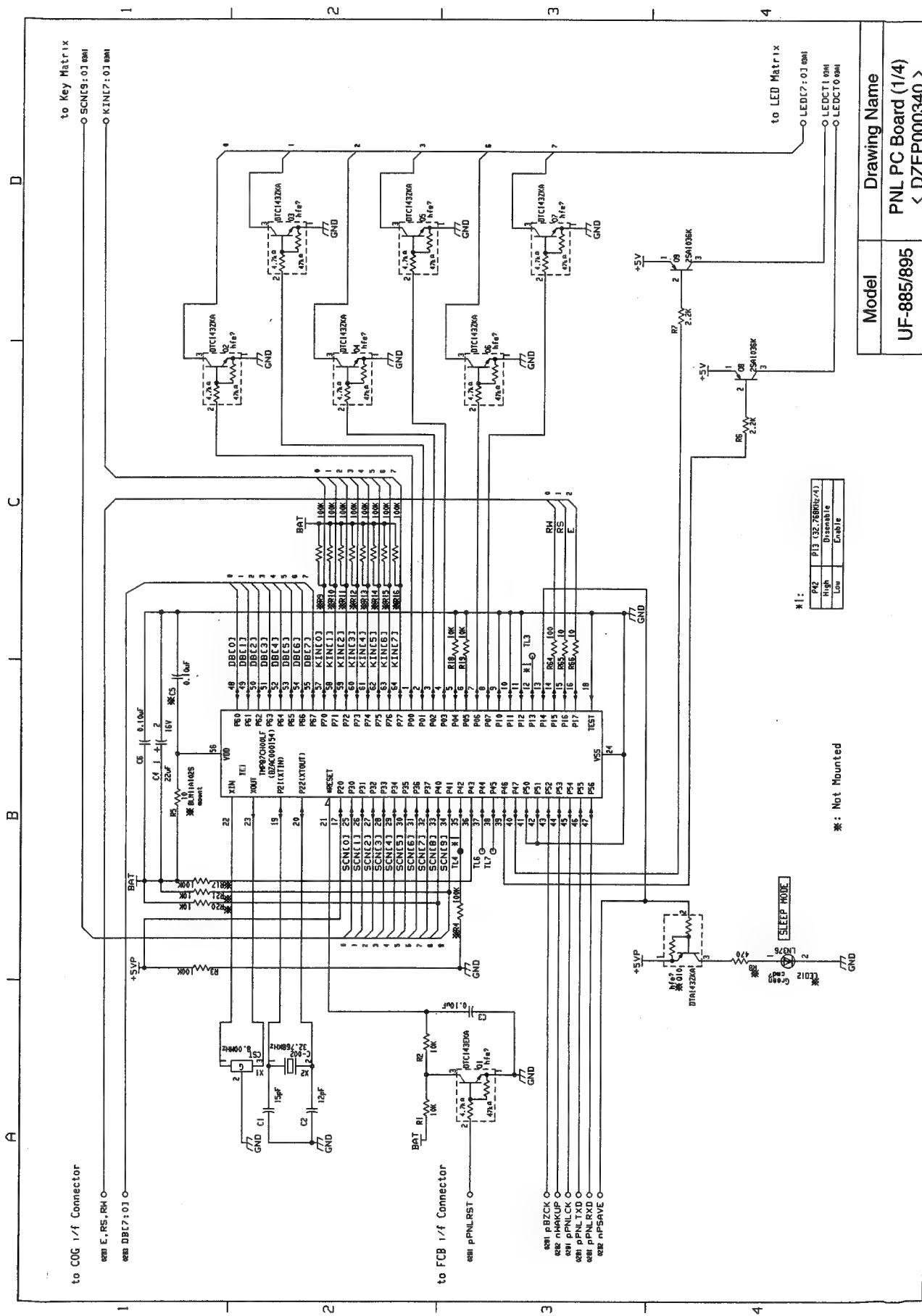
Drawing Name	
LCE PC Board (1/1)	
< DZEP000441 >	
Model	For European Models
UF-885/895	

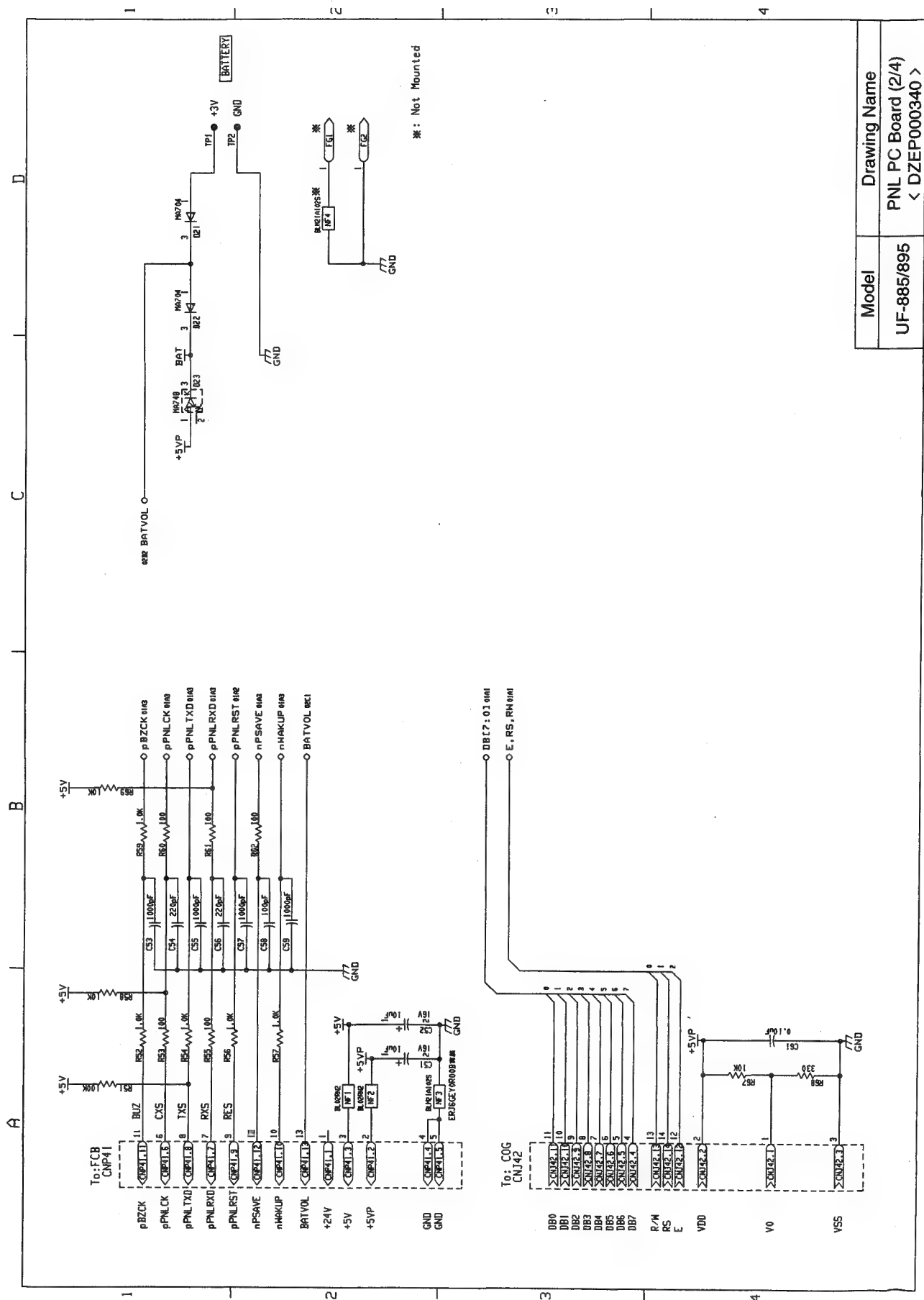
10.5 SRU PC Board

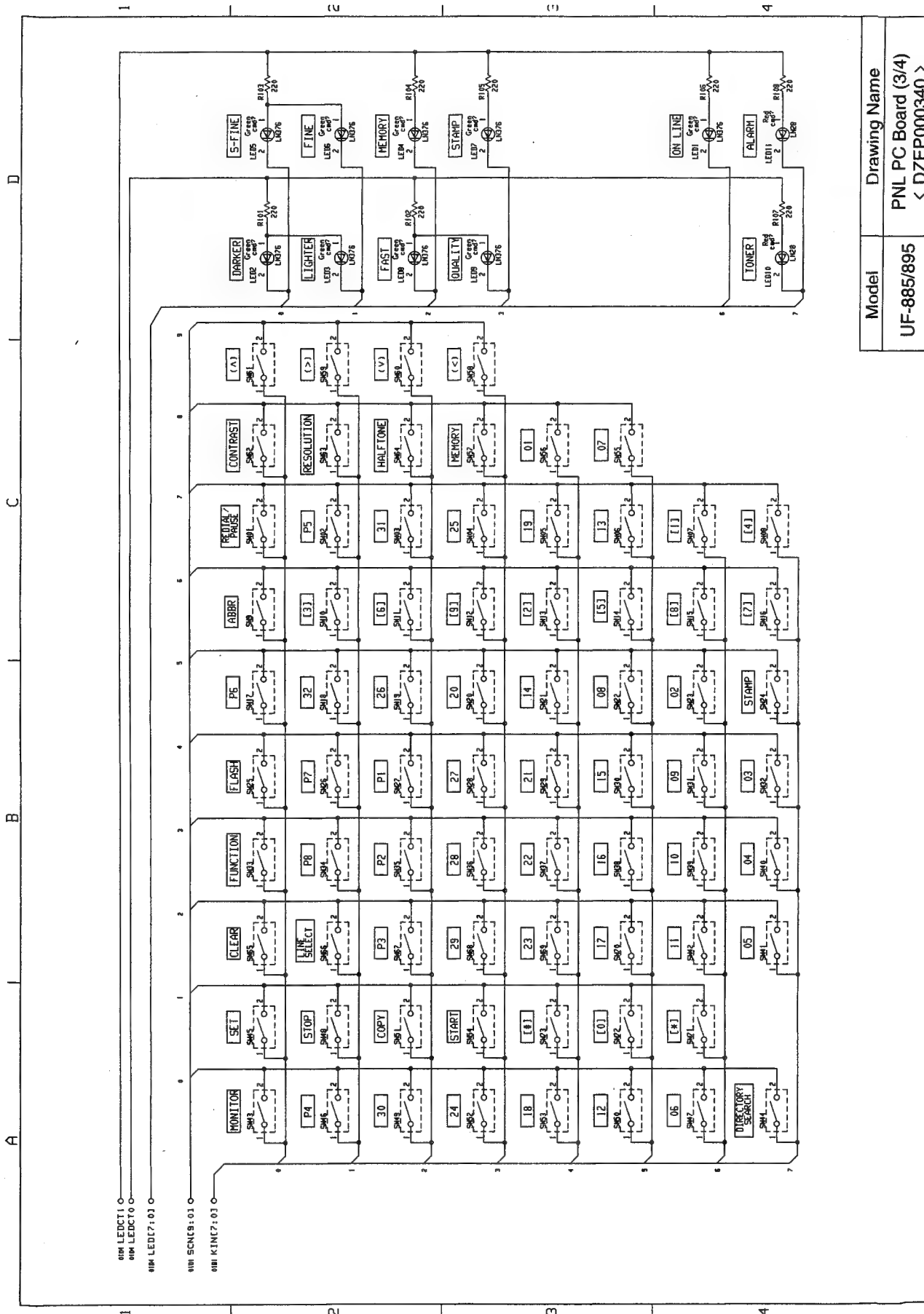


Model	Drawing Name
UF-885/895	SRU PC Board (1/1) < DZEP000168 >

## 10.6 PNL PC Board

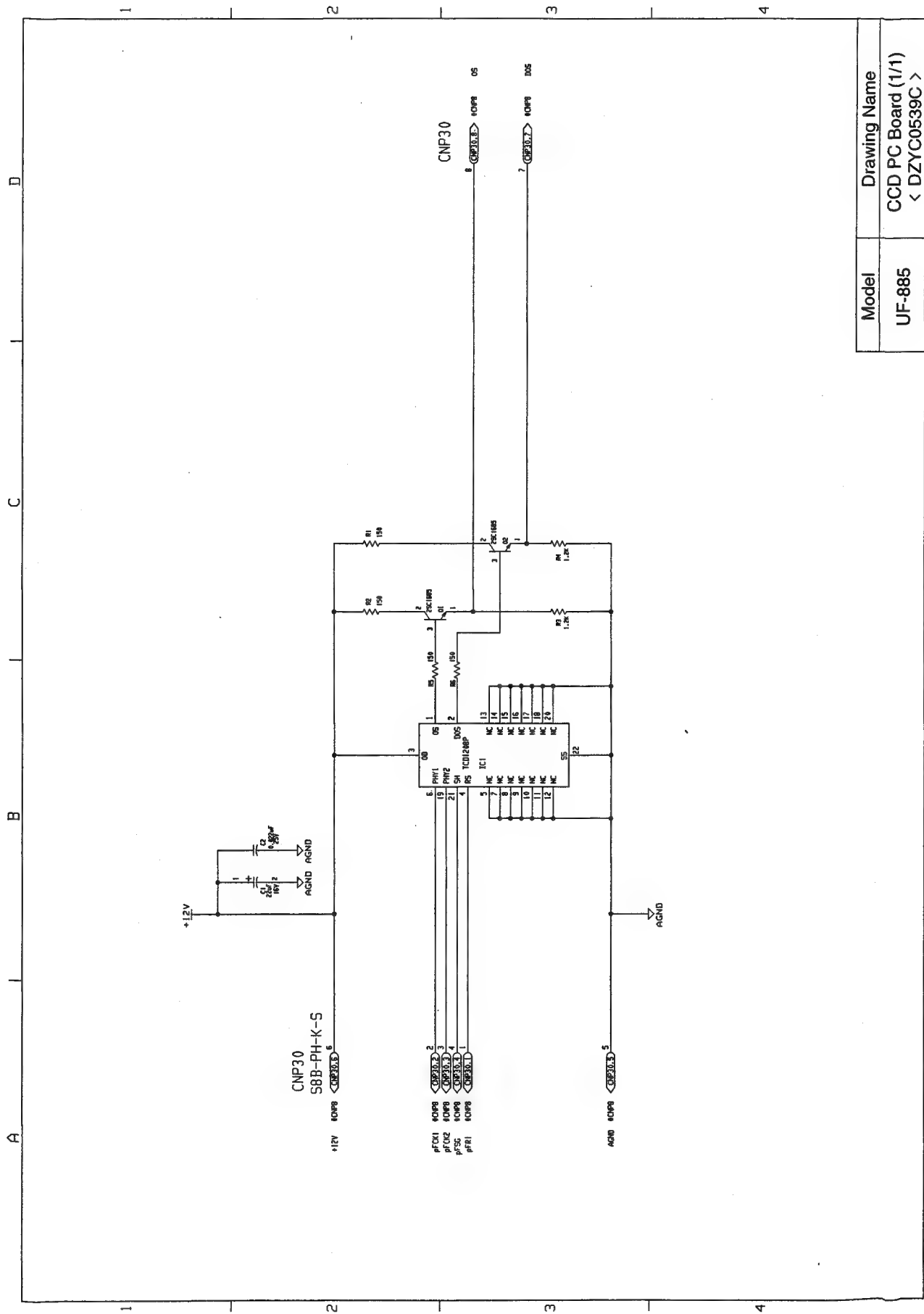




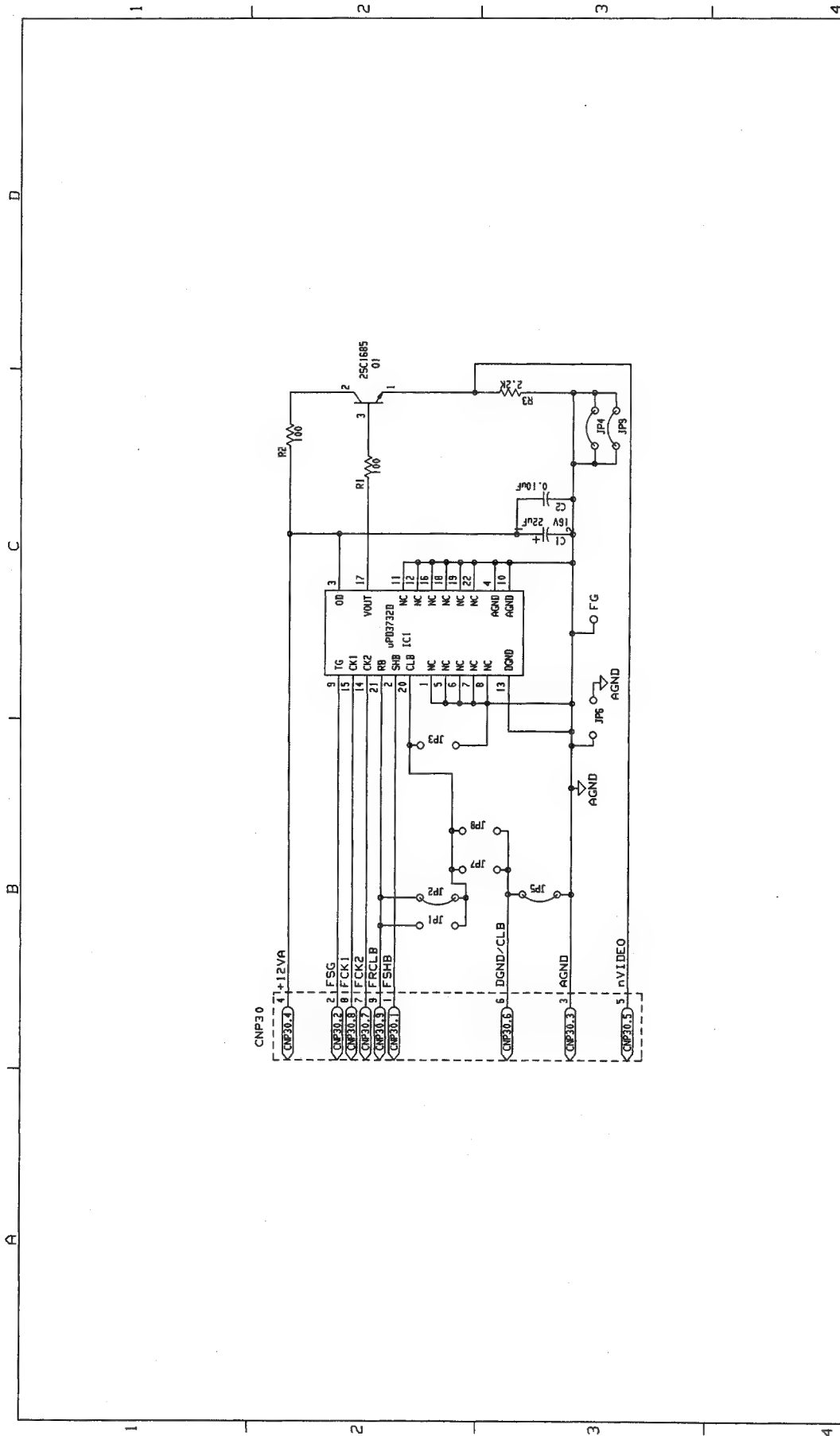




10.7 CCD PC Board



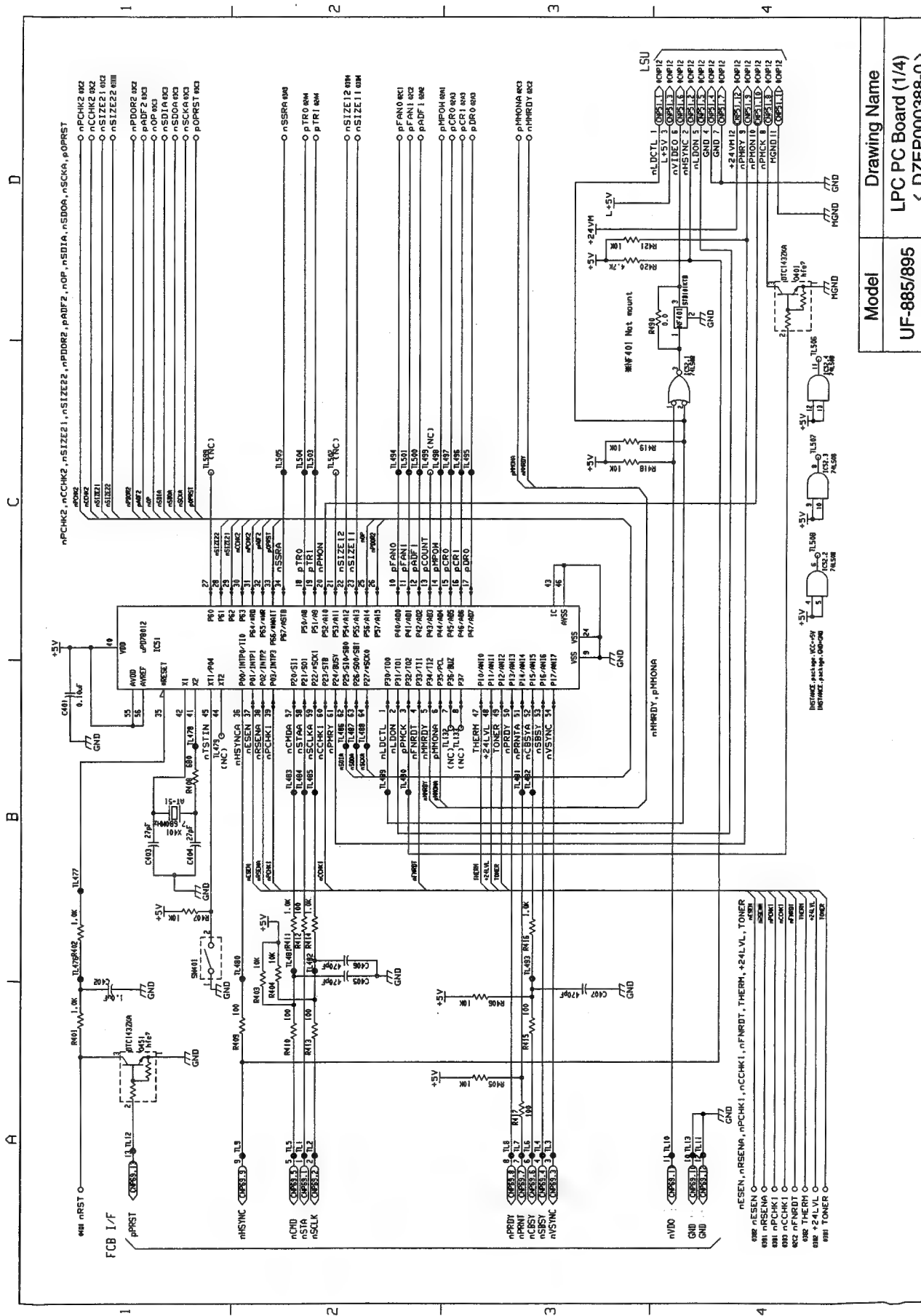
Model	Drawing Name
UF-885	CCD PC Board (1/1) < DZYC0539C >

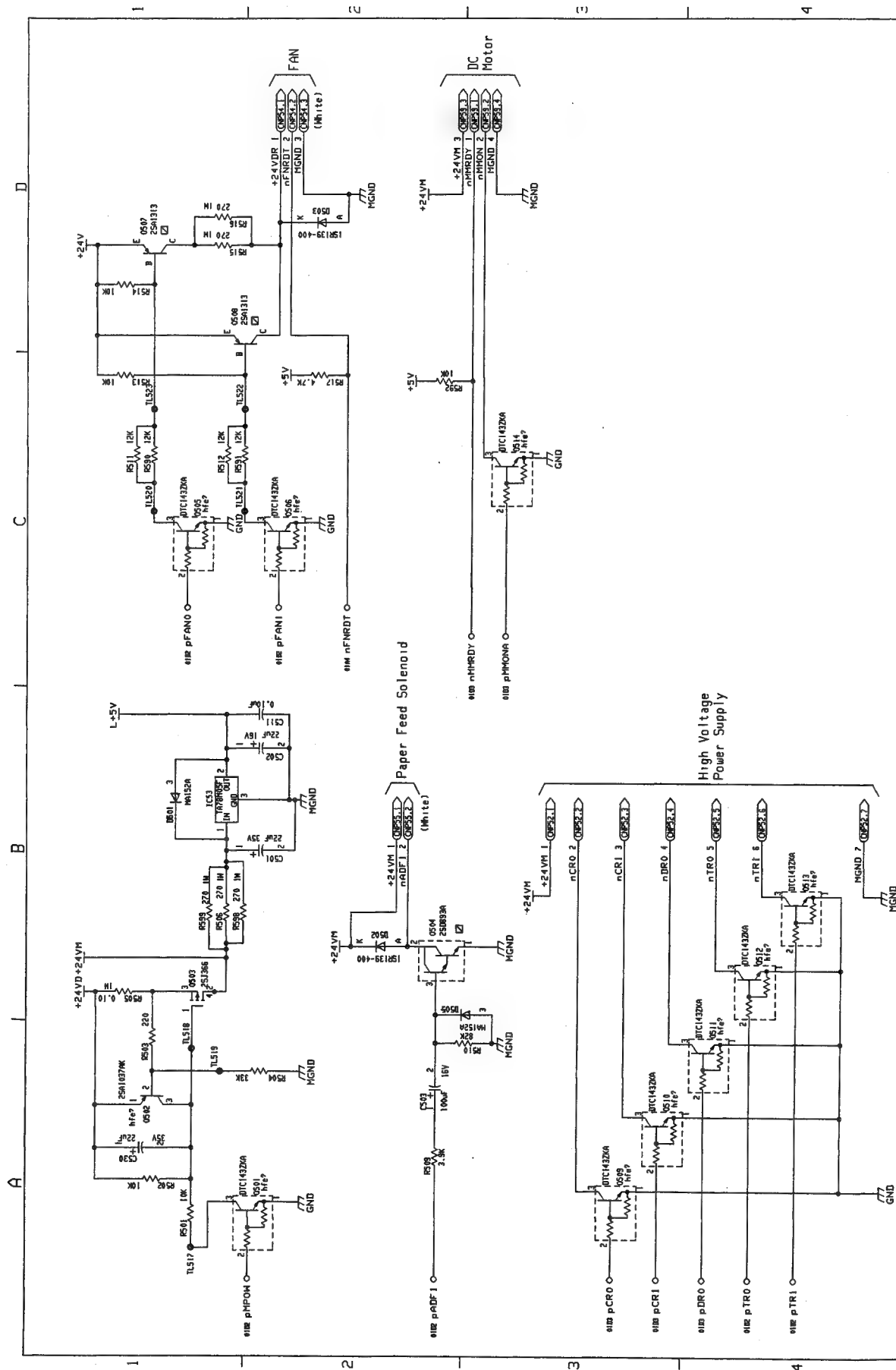


Model	Drawing Name
UF-895	CCD PC Board (1/1) < DZYNA1428 >

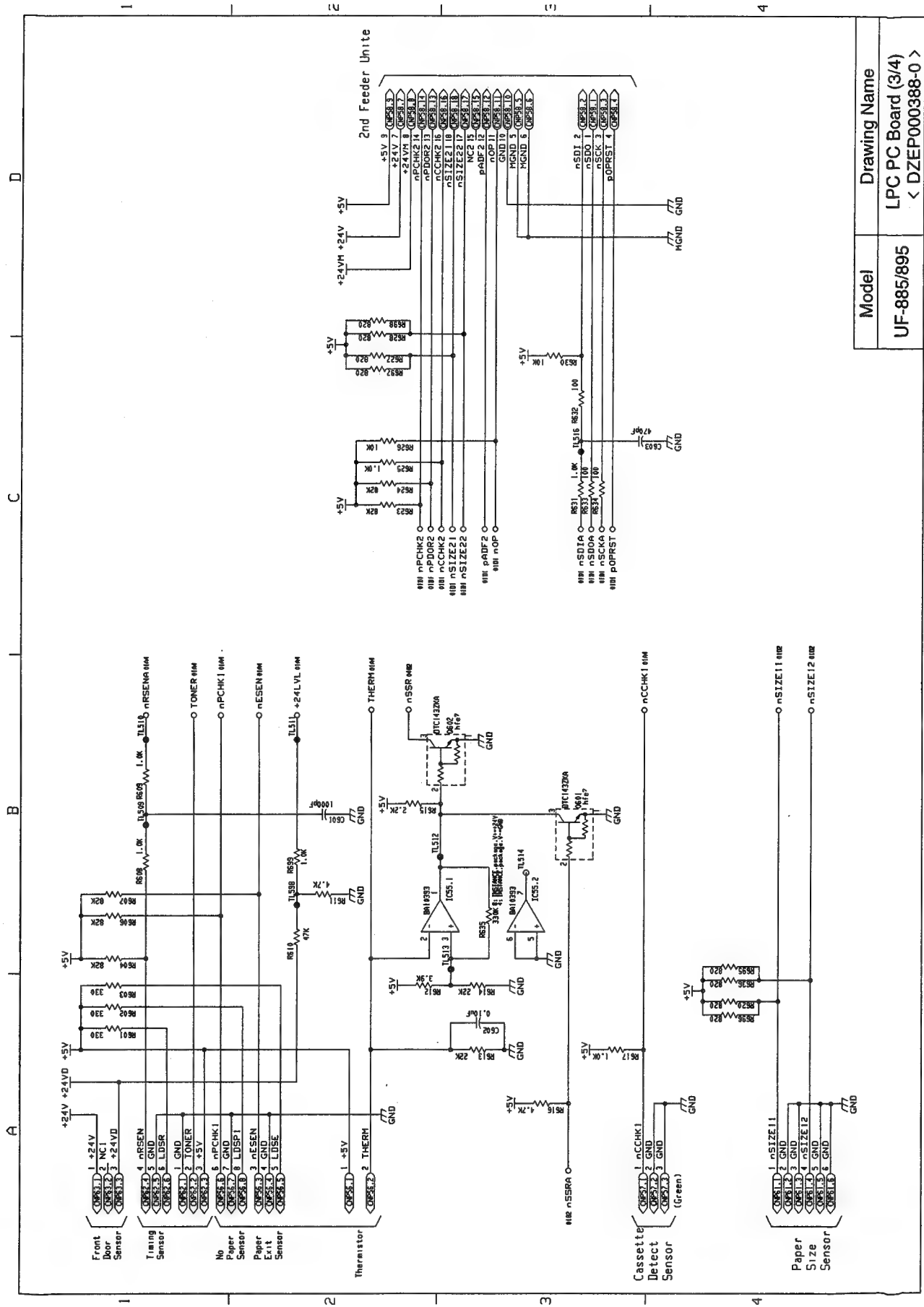


## 10.8 LPC PC Board

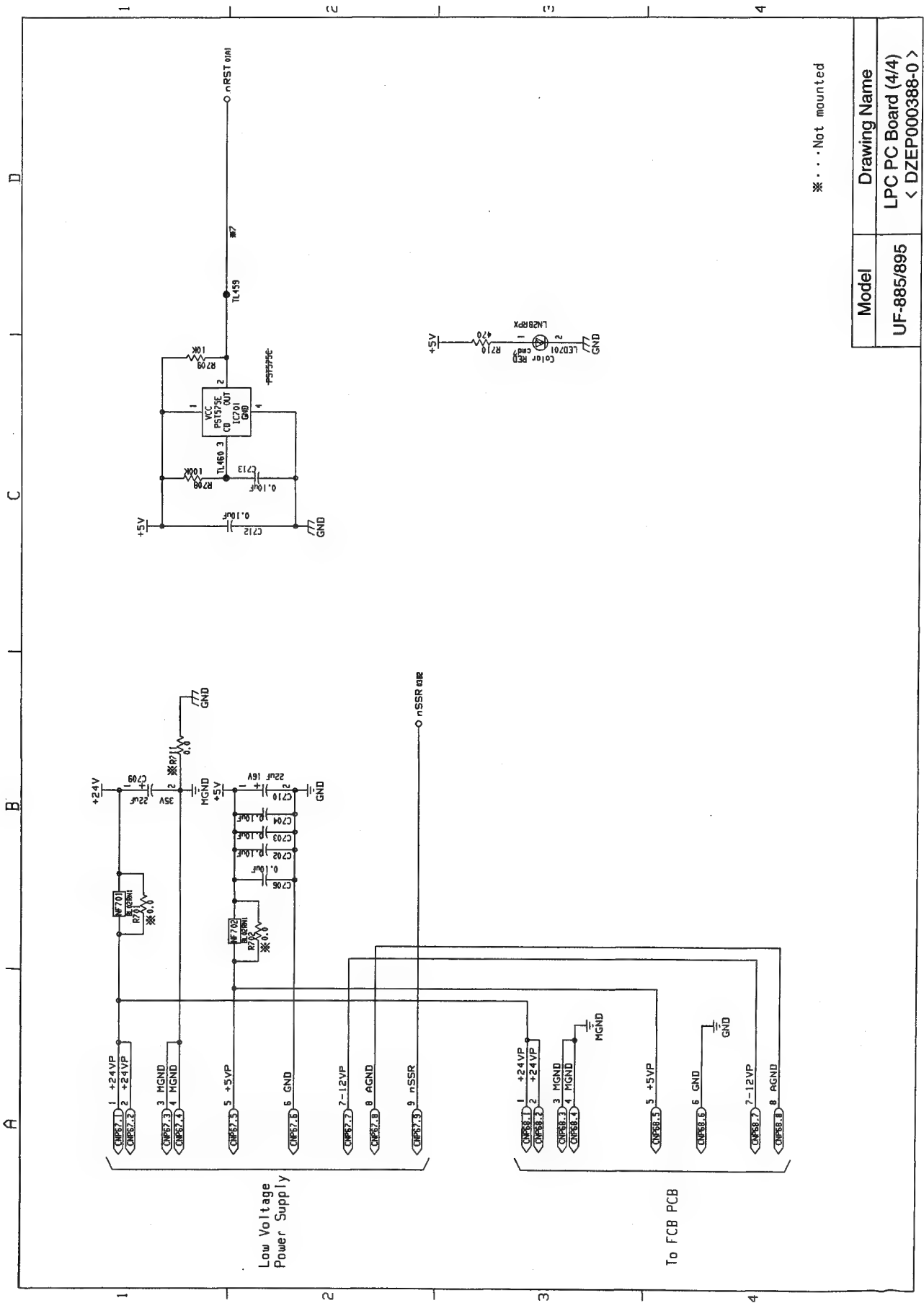




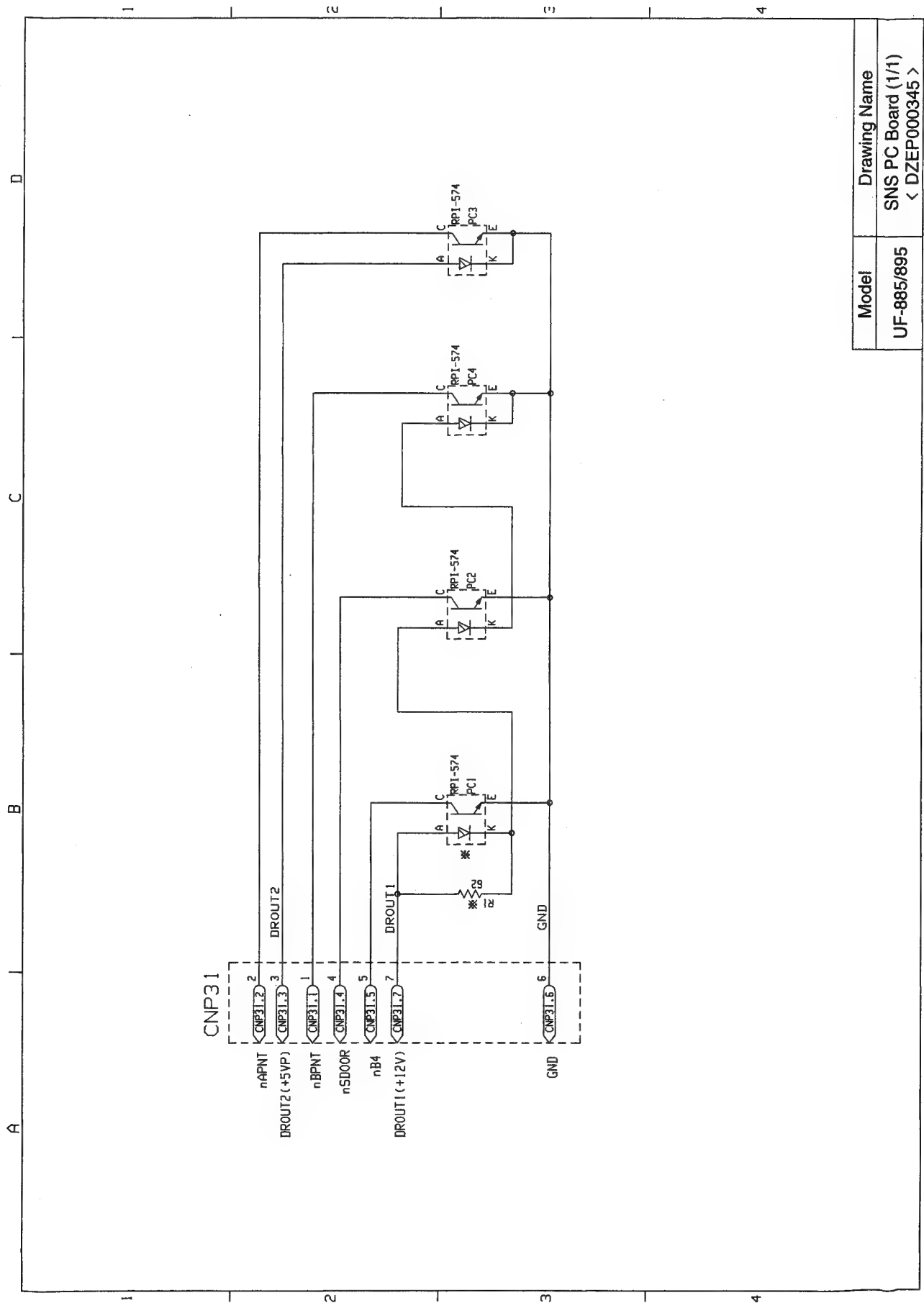
Model	Drawing Name
UF-885/895	LPC PC Board (2/4)
	< DZEP000388-0 >



Model	Drawing Name
UF-885/895	LPC PC Board (3/4) < DZEP000388-0 >

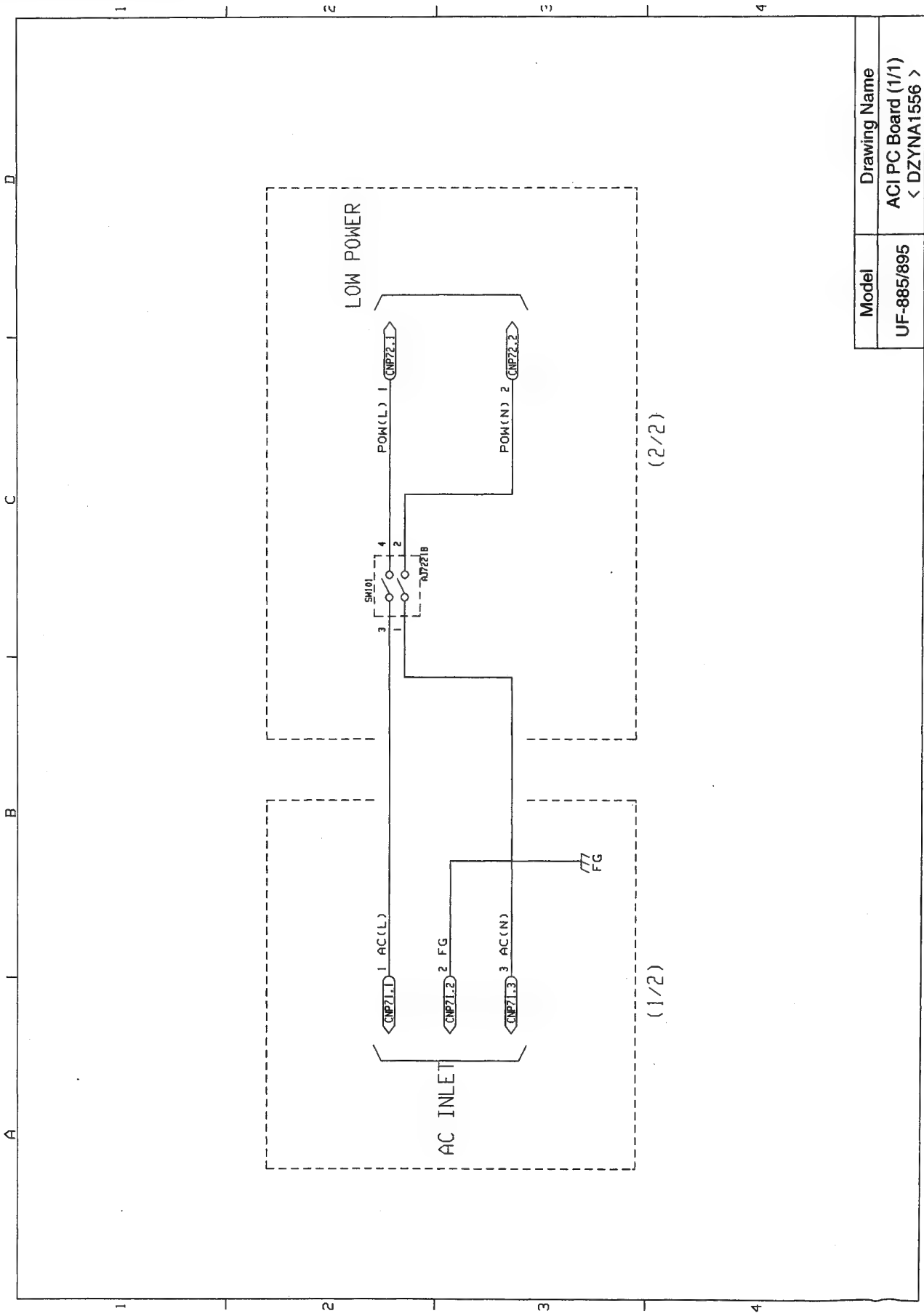


10.9 SNS PC Board



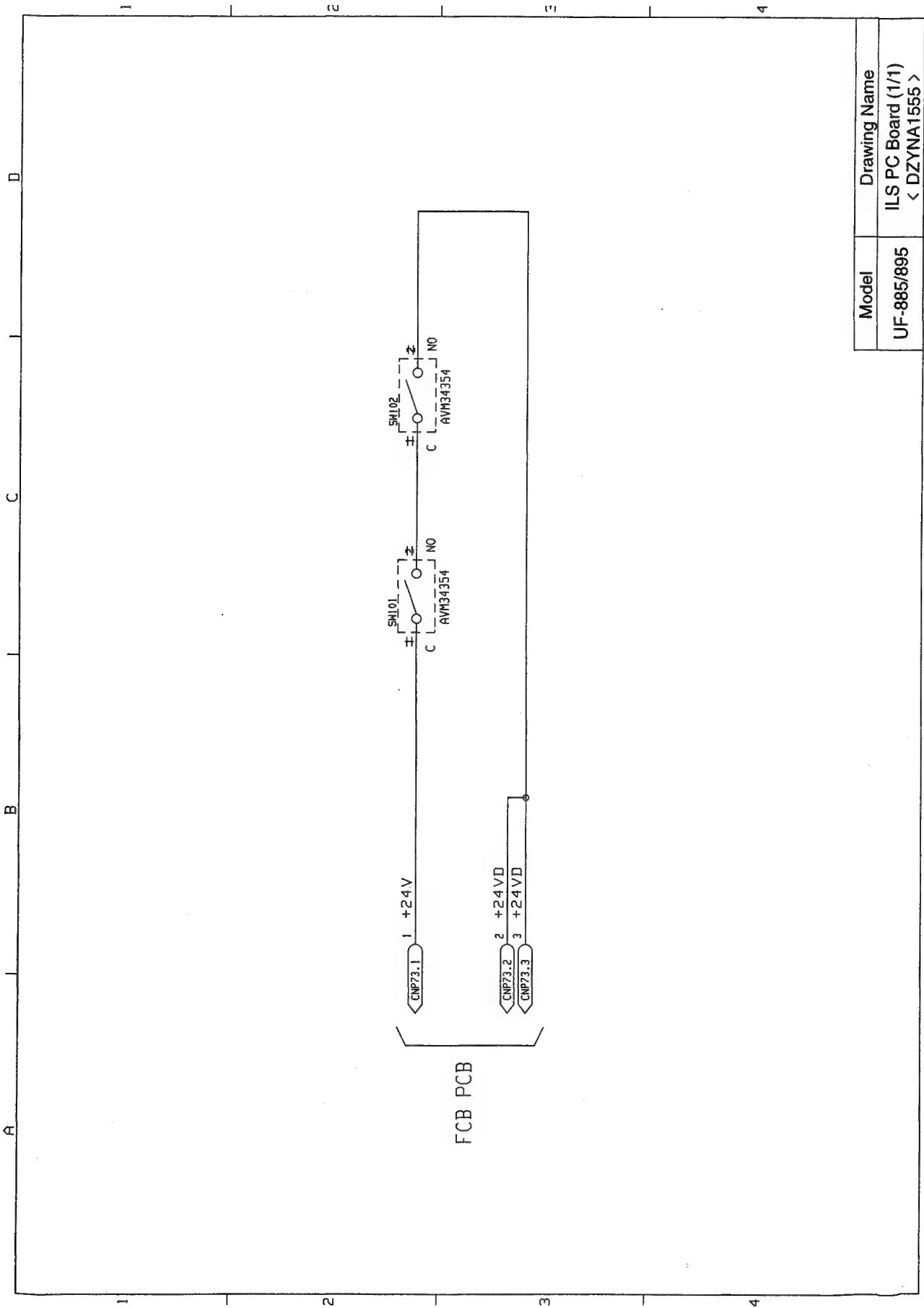
Model	Drawing Name
UF-885/895	SNS PC Board (1/1) < DZEP000345 >

10.10 ACI PC Board



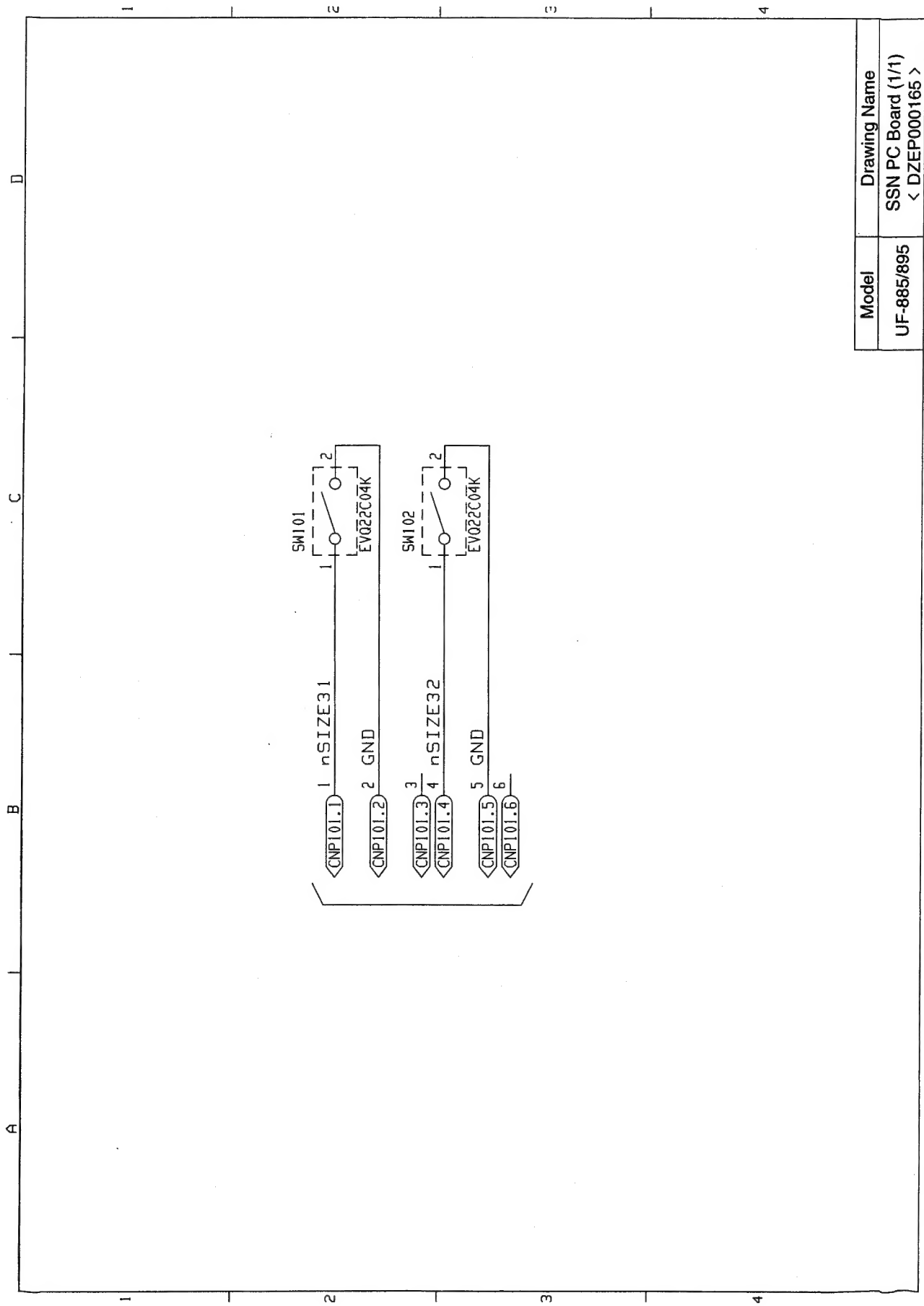
Model	Drawing Name
UF-885/895	ACI PC Board (1/1) < DZYNA1556 >

10.11 ILS PC Board



Model	Drawing Name
UF-885/895	ILS PC Board (1/1) < DZYNA1555 >

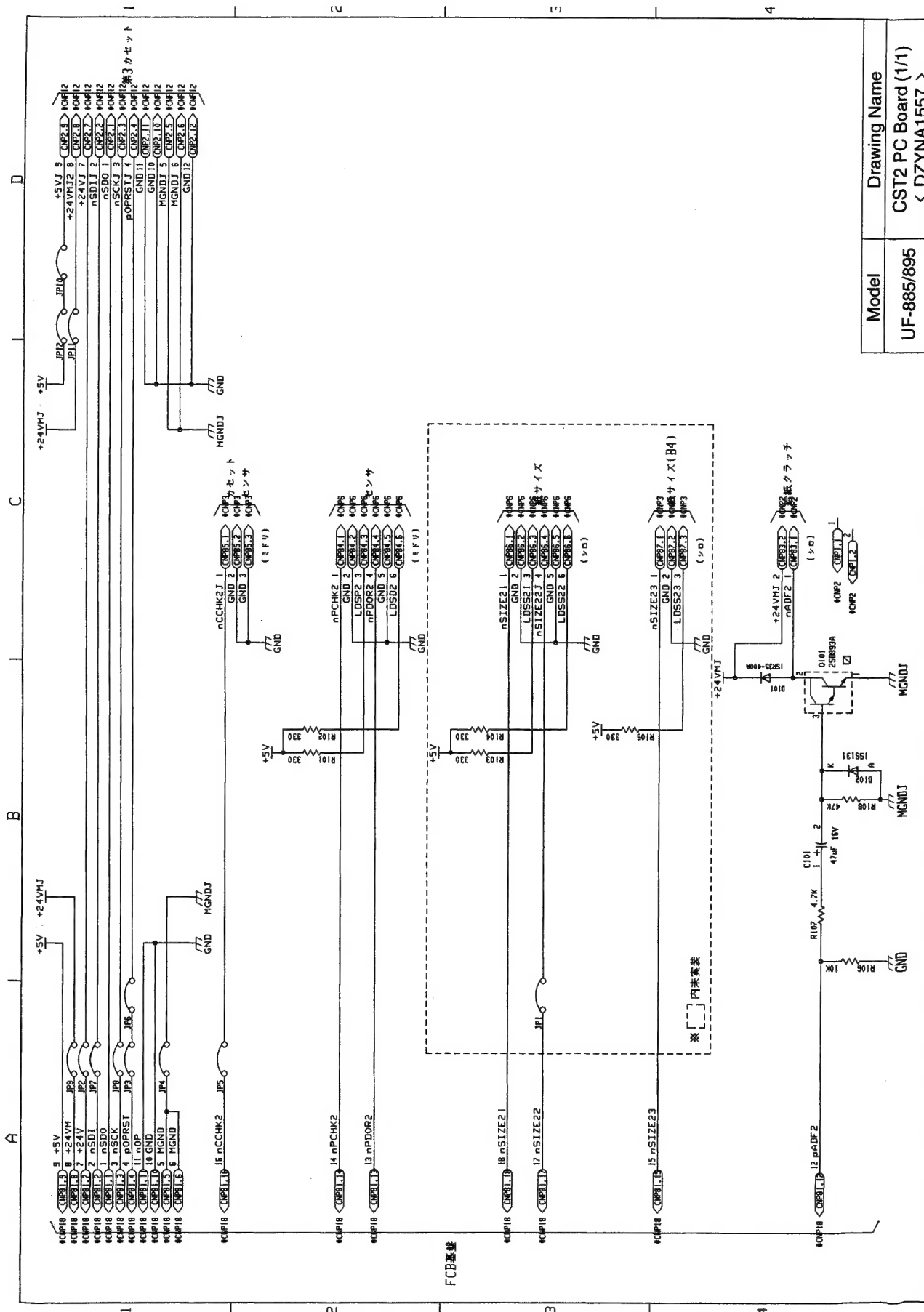
10.12 SSN PC Board



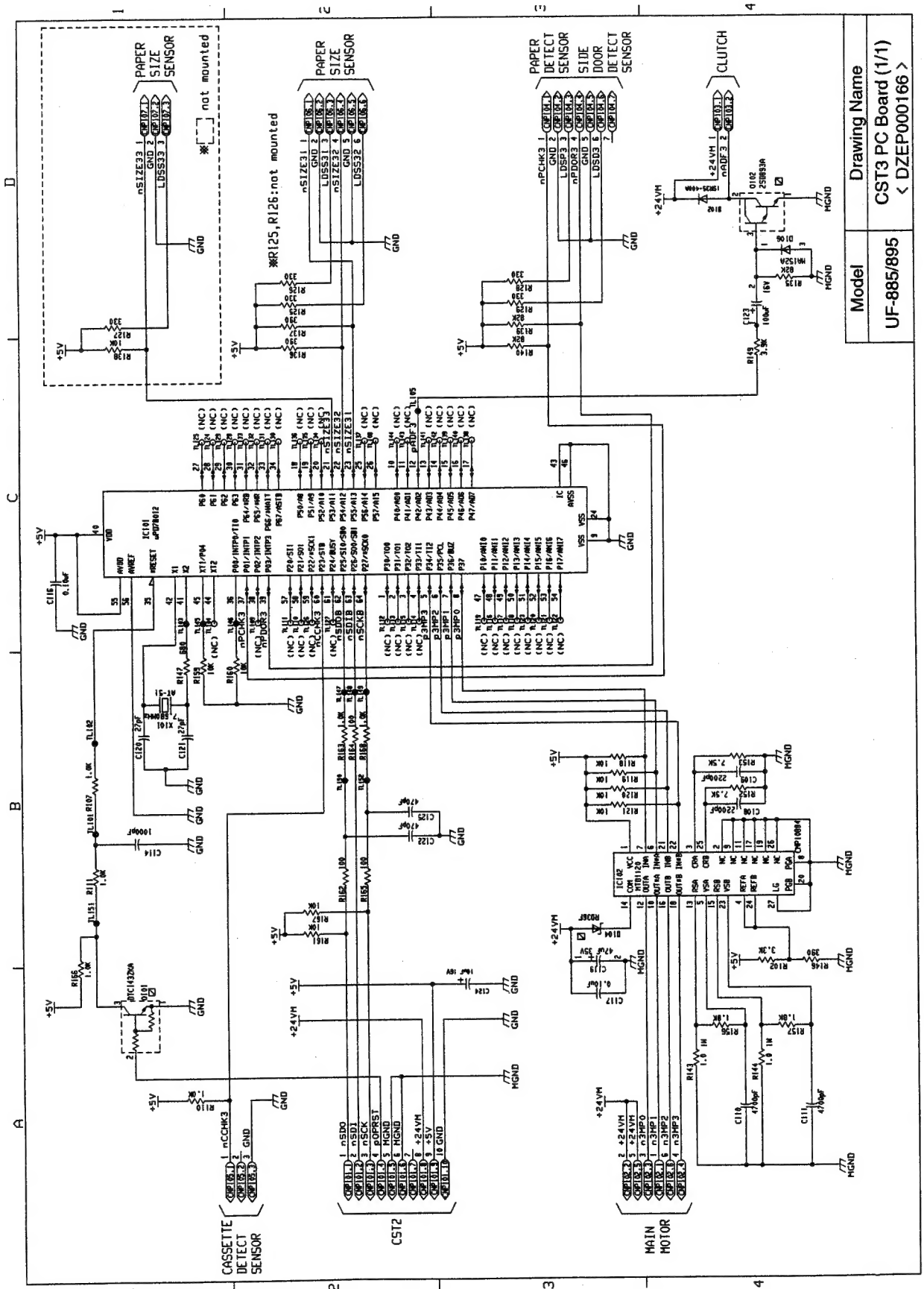
Model	Drawing Name
UF-885/895	SSN PC Board (1/1) < DZEP000165 >



### 10.13 CST2 PC Board



# 10.14 CST3 PC Board



Model	Drawing Name
UF-885/895	CST3 PC Board (1/1)
	< DZEP000166 >

DZZSM077-1

Printed by: Schaltungsdienst Lange, Berlin (GERMANY)